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Philip M. Napoli (Ed.)

MEDIATED COMMUNICATION

HANDBOOKS OF
COMMUNICATION SCIENCE

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Edited by
Peter J. Schulz and Paul Cobley

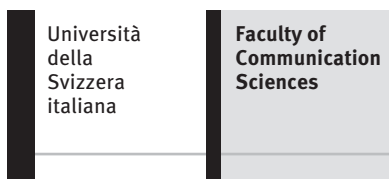
Volume 7

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Preface to *Handbooks of Communication Science* series

This volume is part of the series *Handbooks of Communication Science*, published from 2012 onwards by de Gruyter Mouton. When our generation of scholars was in their undergraduate years, and one happened to be studying communication, a series like this one was hard to imagine. There was, in fact, such a dearth of basic and reference literature that trying to make one's way in communication studies as our generation did would be unimaginable to today's undergraduates in the field. In truth, there was simply nothing much to turn to when you needed to cast a first glance at the key objects in the field of communication. The situation in the United States was slightly different; nevertheless, it is only within the last generation that the basic literature has really proliferated there.

What one did when looking for an overview or just a quick reference was to turn to social science books in general, or to the handbooks or textbooks from the neighbouring disciplines such as psychology, sociology, political science, linguistics, and probably other fields. That situation has changed dramatically. There are more textbooks available on some subjects than even the most industrious undergraduate can read. The representative key multi-volume *International Encyclopedia of Communication* has now been available for some years. Overviews of subfields of communication exist in abundance. There is no longer a dearth for the curious undergraduate, who might nevertheless overlook the abundance of printed material and Google whatever he or she wants to know, to find a suitable Wikipedia entry within seconds.

'Overview literature' in an academic discipline serves to draw a balance. There has been a demand and a necessity to draw that balance in the field of communication and it is an indicator of the maturing of the discipline. Our project of a multi-volume series of *Handbooks of Communication Science* is a part of this coming-of-age movement of the field. It is certainly one of the largest endeavours of its kind within communication sciences, with almost two dozen volumes already planned. But it is also unique in its combination of several things.

The series is a major publishing venture which aims to offer a portrait of the current state of the art in the study of communication. But it seeks to do more than just assemble our knowledge of communication structures and processes; it seeks to *integrate* this knowledge. It does so by offering comprehensive articles in all the volumes instead of small entries in the style of an encyclopedia. An extensive index in each *Handbook* in the series, serves the encyclopedic task of find relevant specific pieces of information. There are already several handbooks in sub-disciplines of communication sciences such as political communication, methodology, organisational communication – but none so far has tried to comprehensively cover the discipline as a whole.

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For all that it is maturing, communication as a discipline is still young and one of its benefits is that it derives its theories and methods from a great variety of work in other, and often older, disciplines. One consequence of this is that there is a variety of approaches and traditions in the field. For the *Handbooks* in this series, this has created two necessities: commitment to a pluralism of approaches, and a commitment to honour the scholarly traditions of current work and its intellectual roots in the knowledge in earlier times.

There is really no single object of communication sciences. However, if one were to posit one possible object it might be the human communicative act – often conceived as “someone communicates something to someone else.” This is the departure point for much study of communication and, in consonance with such study, it is also the departure point for this series of *Handbooks*. As such, the series does not attempt to adopt the untenable position of understanding communication sciences as the study of everything that can be conceived as communicating. Rather, while acknowledging that the study of communication must be multifaceted or fragmented, it also recognizes two very general approaches to communication which can be distinguished as: a) the semiotic or linguistic approach associated particularly with the humanities and developed especially where the Romance languages have been dominant and b) a quantitative approach associated with the hard and the social sciences and developed, especially, within an Anglo-German tradition. Although the relationship between these two approaches and between theory and research has not always been straightforward, the series does not privilege one above the other. In being committed to a plurality of approaches it assumes that different camps have something to tell each other. In this way, the *Handbooks* aspire to be relevant for all approaches to communication. The specific designation “communication science” for the *Handbooks* should be taken to indicate this commitment to plurality; like “the study of communication”, it merely designates the disciplined, methodologically informed, institutionalized study of (human) communication.

On an operational level, the series aims at meeting the needs of undergraduates, postgraduates, academics and researchers across the area of communication studies. Integrating knowledge of communication structures and processes, it is dedicated to cultural and epistemological diversity, covering work originating from around the globe and applying very different scholarly approaches. To this end, the series is divided into 6 sections: “Theories and Models of Communication”, “Messages, Codes and Channels”, “Mode of Address, Communicative Situations and Contexts”, “Methodologies”, “Application areas” and “Futures”. As readers will see, the first four sections are fixed; yet it is in the nature of our field that the “Application areas” will expand. It is inevitable that the futures for the field promise to be intriguing with their proximity to the key concerns of human existence on this planet (and even beyond), with the continuing prospect in communication sciences that that future is increasingly susceptible of prediction.

Note: administration on this series has been funded by the Università della Svizzera italiana – University of Lugano. Thanks go to the president of the university, Professor Piero Martinoli, as well as to the administration director, Albino Zraggen.

Peter J. Schulz, Università della Svizzera italiana, Lugano

Paul Cobley, Middlesex University, London

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Philip M. Napoli

1 Introduction

Abstract: This introductory chapter seeks to accomplish two primary goals: 1) to provide the reader with a sense of the volume's subject matter focus (through an overview of the process of deciding how best to title the volume; and 2) to provide the reader with a sense of the overall scope of the subject matter contained within the volume. As this Introduction indicates, the term Mediated Communication has come to be utilized as a replacement for terms such as broadcasting, mass communication, and mass media, which have come to be associated with a particular, now-passed, era in media history – and in the history of media scholarship. After discussing the specific dynamics that have provided the impetus for this shift, this chapter provides an overview of each of the sections that comprise the volume, and of the subject matter contained within each of these sections.

Keywords: mediated communication, broadcasting, mass communication, mass media, communication science

This volume is devoted to the history, theory, methods, key contexts, and contemporary issues in research focused on Mediated Communication. In an effort to effectively lay out the parameters of this field of focus, it might be useful to begin with a description of the initial stages in the formulation of this volume, in which the series editors and I discussed the very practical question of what the volume's title should be. In some ways, the complex and evolving nature, and shifting boundaries, of the field are well reflected in the challenges associated with deciding how best to title the volume.

Initially, the series editors approached me to produce an edited volume tentatively focused on "Broadcasting." I had a difficult time figuring out what a contemporary volume focused on scholarship on broadcasting could – or should – look like. The term broadcasting has very specific connotations, reflecting the one-to-many communication dynamic that we, to some extent, tend to associate with the notion of mass media (another term, and volume title candidate, that will be discussed a bit later).

However, the term broadcasting also has a very specific denotative meaning (at least for those working in areas such as media technology and media regulation and policy). The term broadcasting often refers specifically to mass media that rely on the broadcast spectrum (i.e., the airwaves) to deliver content. From this definitional standpoint, broadcasting comprises only terrestrial radio and television broadcast stations, along with spectrum-reliant satellite systems. In many countries (including the U.S.), broadcasting thus refers to a very specific sector of the media industry, that sometimes has its own distinctive regulatory framework, with this regulatory framework premised (rightly or wrongly) on the distinctive characteristics of broadcasting as a medium of communication (see Napoli, in press, Chapter 5). To the extent that

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some readers might approach this volume with this denotative meaning of the term broadcasting in mind, we decided that the term was a bit too limiting – a bit too “old media” – for a contemporary volume focusing on media-related scholarship.

In considering, then, how to better reflect the volume’s focus, the most obvious alternative that came to mind was Mass Communication. Mass Communication is a term that served for many years as a fairly well agreed-upon label for a field of research. However, this term has become somewhat problematic over time; and as a result has been somewhat marginalized. In understanding why, and why the term was ultimately rejected as the title for this volume, it is worth briefly revisiting the term’s origins and history.

While it is difficult to locate the definitive origins of the term “mass communication,” Chaffee and Rogers (1997) tentatively attribute its origins to Rockefeller Foundation official John Marshall, who, from the 1930s through the 1950s was instrumental in bringing together scholars from around the U.S. with an interest in communications research and funding a substantial amount of early research in the nascent field. Buxton (1994) similarly speculates that Marshall’s use of the term in a 1940 memorandum may have been the first use of the term as an analytical concept.

It is important to remember that the term developed to represent a nascent field of research focused on domestic and international opinion formation and influence, in response to events such as the two world wars and the Cold War (Gary, 1996; Peters, 1986). Its scope gradually broadened to include a focus on areas such as content and institutions, particularly as the effects-related research appeared to reach a point of diminishing returns (see Napoli, 2010).

While a review of all of the definitional approaches to the term mass communication is beyond the scope of this chapter, it is worth revisiting some early efforts. In 1953, sociologist Eliot Freidson outlined what he perceived as the predominant definition of mass communication, which included four distinguishing features of the mass audience: (1) it is heterogeneous in composition; (2) it is composed of individuals who do not know each other; (3) the members of the mass are spatially separated; and (4) the mass has no definite leadership and a very loose organization (1953: 313). An oft-cited definition by Wright (1960) emphasized the following three elements of mass communication: (a) content is directed toward large, heterogeneous, anonymous audiences; (b) content is transmitted publicly, and often reaches audiences simultaneously; and (c) the communicator tends to be, or operate within, a complex organization that may involve great expense.

By the 1970s, scholars began to question the applicability of such formulations of the concept of mass communication to the dynamics of a changing media environment, in which a greater proportion of the media system was composed of outlets serving relatively narrow segments of the audience (e.g. Maisel, 1973). In a 1977 article in the *Journal of Communication*, Robert Escarpit described the notion of the “mass” as “rapidly dissolving to be replaced by the puzzling yet far more workable image of an intricate network of communication channels” (1977: 47).

This impetus behind the decline of mass communication as an orienting term accelerated in the late 1980s and picked up increased momentum in the 1990s (Turow, 1990). During this time, the evolving media environment, with its ability to facilitate the targeting of small, homogeneous audience segments due to increased media fragmentation (particularly the growth of cable, the VCR and, later, the internet), and its ability to facilitate more interactive forms of communication, increasingly became one in which perceived traditional notions of mass communication, involving the one-to-many dissemination of content to a large, heterogeneous audience who simultaneously received the content, represented an increasingly rare form of communication (Chaffee and Metzger, 2001; Neuman, 1991).

Such critiques affected the self-image of the field, as many academic departments renamed themselves, abandoning the mass communication label in favor of terms such as “media studies” or “telecommunications.” Some academic associations and journals even scrubbed the term from their titles (see Napoli, 2010). Clearly, the term mass communication has been on the wane.

One might be tempted to say that the field was a bit premature in casting the term mass communication aside, especially when we consider how contemporary concerns about the nature and effects of disinformation disseminated on social media reflect the same concerns about the production, flow, and impact of propaganda that gave rise to the field of mass communication in the first place; and the ways in which digital communications technologies have evolved to foreground a select few powerful gatekeepers (Facebook, Apple, Google), not unlike the mass media era (see Napoli, in press).

And so, while I would feel comfortable making the case that the concept of mass communication is as relevant now as it ever has been (though requiring some definitional adjustment; see Napoli, 2010), I also recognize that it connotes a certain type of communication dynamic that doesn’t capture the full range of phenomena being addressed in contemporary media-related scholarship. Ultimately, like Broadcasting, the “old media” connotations of the term Mass Communication make it inadequate for representing the scope of contemporary media-related scholarship. As Everette Dennis notes in his incredibly informative chapter on the origins of the field, “The ‘mass communication’ seized on by scholars as an object of study at the dawn of modern communication research in the 1940s is not the same phenomenon that we see in the twenty-first century.”

For similar, and additional, reasons, the term mass media was also briefly considered and rejected. The term mass media carries much of the same baggage as the term mass communication. However, it is additionally burdened by suggesting an emphasis on a particular set of technologies and associated institutions, and not the entirety of the communicative process.

Which brings us to the term Mediated Communication, the term which seems to best reflect our intentions to capture the contemporary iteration of what we would have once most likely called Mass Communication research. Mediated Communication is

both a broader, and more neutral term. It encompasses traditional notions of mass communication research while also accommodating more contemporary approaches that focus on more individualistic forms of mediated communication (see, e.g., this volume's chapter on Mobile Communication), and on ways in which newer media technologies and platforms facilitate more targeted and personalized one-to-many communication dynamics (see, e.g., this volume's chapters on Algorithmic Filtering and Exposure Diversity).

Mediated Communication is a term that lacks (at least at this point) tensions between its denotative and connotative meaning that characterize terms such as broadcasting, mass communication, and mass media. The term mediated communication has yet to be subject to the type of concerns and questions about its contemporary relevance that have come to characterize these earlier terms. As Everette Dennis notes in his chapter, the term mediated communication "was developed as an alternative to mass communication, which was seen as antiquated or passé." It is, at this point, perhaps too new of a term to have picked up much connotative baggage. That being said, it may be worth noting that my previous academic institution opted a few years back to abandon the term *mediated communication* as a descriptor for one of its areas of concentration in favor of the term *media technology*. And so the process of field definition and re-definition continues.

1 Constraints

It is impossible for any one volume to do justice to an entire field. All one can hope to do is try to be as comprehensive as possible within the space and definitional constraints within which one is working. I mention definitional constraints not only in reference to the previous discussion, but also in reference to the fact that this volume is part of a book series titled *Handbooks of Communication Science* (emphasis added). In my effort to impose sufficient definitional constraints on the field – in order to fit within the practical space constraints of a single volume – it is important to acknowledge upfront that I allowed this series' emphasis on "communication science" to impose upon me a fairly strong social science orientation in the construction of this volume.

The ramifications of this constraint within the context of media-related research are particularly profound. Perhaps more so than other areas of communication research, media research has strong and vital traditions in both the social sciences and the humanities. Indeed, going back once more to issues of terms and definitions, the term *media studies* has come to define more humanistic approaches to media research, whereas the term *mediated communication* has come to define more social scientific approaches. Thus, I readily acknowledge that a scholar seeking to use this volume as a comprehensive resource for more humanistic media studies scholarship

will likely be dissatisfied. These omissions are not intended as, in any way, a value judgment on the relative merits of more humanistic media studies scholarship. Rather, they are a reflection of efforts to operate within – and properly reflect – the constraints inherent in a series with an articulated focus on communication science.

2 Volume organization

With these various definitional and scope issues out of the way, it is time to provide an overview of how this volume is organized. In keeping with the organizational structure of the other volumes in this series, this volume begins with a section focusing on the field's Intellectual Foundations. Generally, the goal in this section is to feature work examining the field's origins and evolution. In this case, both topics are handled admirably in a chapter (already referenced above) by the esteemed Everette Dennis. Professor Dennis's chapter does a wonderful job of charting the evolution of the field of mass communication into the field of mediated communication, and illustrating the various technological and institutional forces that have affected this process. I have tried not to steal too much of Professor Dennis's thunder, so to speak, in this Introduction, as his chapter goes into far greater depth on some of the topics raised here.

The next section of this volume focuses on Theoretical Perspectives. One can not hope to capture the full range of the theoretical diversity of mediated communication within a single section of a single volume. As Michael Delli Carpini notes in his thought-provoking concluding chapter on the future of the field, when we look at the various theoretical perspectives discussed in this section, and the full range of theoretical perspectives brought to bear in the later section of the book that focuses on specific research Contexts, there are many theoretical perspectives brought to bear in the Contexts chapters that did not find their way into the Theoretical Perspectives chapters. This is certainly a reflection of the interdisciplinary nature of the field and the intellectual cosmopolitanism of the scholars working within it.

At the same time, the goal of this section is not to provide an exhaustive overview of relevant theoretical perspectives, but to identify a set of core topics, that help to define the field, around which theory development has tended to cluster. Thus, in this section we have chapters devoted to theoretical perspectives on Media Effects, Media Usage, Media Technology Adoption, Audience Behavior, Audience Reception, Content Creation, and Media Evolution. In each of these subject areas, there has been a fairly rich vein of theory development and refinement that continues to this day. And, as virtually all of the authors contributing to this section illustrate quite clearly, technological, behavioral, and institutional changes are all coming to bear in terms of if and how established theoretical perspectives need to be revised or replaced.

The next section of this volume focuses on Methodological Approaches. Here, the focus is on providing state-of-the-art overviews of the core methodological approaches

that are employed in contemporary, social scientifically oriented, mediated communication research. Some of the chapters focus on well-established methodological approaches that are encountering new challenges (e.g., Survey Research, Ratings Analysis), and/ or that are taking advantage of new technological developments to expand their applicability and scope (e.g., Experiments, Content Analysis, Ratings Analysis [again], Audience Reception Analysis). Some methodological approaches, such as Network Analysis, represent more recent additions to the mediated communication researchers' methodological toolkit. Ultimately, though, each of these chapters provides a fairly detailed discussion of the challenges, opportunities, and contemporary applications, of each methodological approach.

The next section focuses on Contexts. This section is meant to facilitate deep dives into specific subject areas that have been core areas of focus for Mediated Communication research. Here, then, we focus on many of the defining topics that have characterized the field: Media Violence, Media and Health Communication, Race/Ethnicity and Media, Political Advertising, and Media and Civic Engagement, to name a few. These essentially are subject areas where the theoretical and methodological approaches discussed in the previous sections have frequently been applied. As was noted above, some of these contexts draw upon core theoretical perspectives in the field; though often they draw from theoretical perspectives developed primarily in other fields. What all of these chapters have in common is that they focus on a subject area that has a fairly long tradition in mediated communication scholarship, as well as continued relevance.

The next section focuses on Contemporary Issues. These are subject areas that lack the more extended history of those included in the Contexts section, and that are particularly reflective of the key issues and concerns that characterize contemporary public discourse on the intersection of media and contemporary economic, social, and political life. Thus, in this section we have chapters addressing high profile contemporary issues such as the Digital Divide, Algorithmic Filtering, and Big Data. These, along with other contemporary issues such as Exposure Diversity, Media Literacy, and Media and Social Movements, represent some of the most compelling and vital areas of contemporary mediated communication research.

While there is a certain amount of subjectivity inherent in the composition of each of this volume's sections, this Contemporary Issues section, perhaps more than the others, reflects my own subjective assessment (i.e., biases) about the most compelling issues facing the field today. One could imagine another editor potentially composing this section with a completely different set of topics – but such is the robustness and increasingly broadly relevant state of contemporary mediated communication research.

This volume concludes with a consideration of the future of the field. As was noted above, this concluding chapter has been written by Michael Delli Carpini, who has spent the past 15 years as the Walter H. Annenberg Dean of the University of Pennsylvania's Annenberg School for Communication, one of the world's most prominent

communication programs. Dean Delli Carpini is, needless to say, uniquely well suited to consider where this ever-evolving field is heading next.

Acknowledgments

Finally, a number of thanks are in order. Thanks first to Professors Paul Cobley and Peter Schulz, the series co-editors who invited me to contribute this volume to their incredibly ambitious series. I hope that this collection does the series justice. Thank you also to Barbara Karlson and her colleagues at De Gruyter for shepherding this process along, and giving me much-needed pokes on occasion to assure that the wheels kept turning. I had some incredibly valuable editorial assistance here at Duke, most notably from Max Sinsheimer. When it turns out that a graduate student in your school happens to have previously been an editor at Oxford University Press – that is the essence of good fortune. Van Nguyen, one of my undergraduate research assistants here at Duke, also deserves thanks for helping out with the editorial process after Max graduated.

Lastly, and most important, thank you to all of the contributors to this volume, who took time out of their busy schedules to produce these chapters. The level of expertise, insight, and experience reflected in these chapters really is awe-inspiring. These days, prominent scholars in the field can find themselves bombarded with invitations to contribute to an array of ongoing handbook and encyclopedia projects. I am eternally grateful that all of these contributors found my invitation to be one worth accepting. And an extra thanks to those contributors (you know who you are) who delivered your contributions on time.

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Part I: Intellectual Foundations

Everette E. Dennis

2 Beginnings: Origins of Mediated Communication Research

Abstract: Considerable work has been done to retrieve the history of mass communication research over several decades, but the history of mediated communication has no such legacy since the term is of relatively recent origin. However, understanding the trajectory of research on mediated communication benefits from a review of the history of mass communication and media research. Since there is no unified field theory that fully explains the linkages between what mass communication meant during its formative years and the nature and reach of mediated communication that is associated with the digital age, it is useful to explore this contested history. Part of the issue stems from media research based on mass communication and legacy media vs. models that come from the post-industrial age of information. The movement from mass to mediated communication and its context is explained by the difference between undifferentiated appeals to a mass audience rather than more targeted efforts to reach finite audiences and demographic groups. An assessment of several stages of largely American communication research is paired with commentary derived from European scholars. The motivation of scholars and sources of their support are also considered.

Keywords: history, mass communication, mediated communication, convergence, digitization

There is a protracted and contentious effort to retrieve the history of mass communication research dating from the 1970s forward and coalescing in the first decades of the twenty-first century. But research on the history of *mediated communication* and its origins has no immediately evident pathway since the term itself is of relatively recent vintage. It was developed as an alternative to mass communication, which was seen as antiquated or passé. Whether the beginnings of the two can be successfully commingled and connected is open to debate. Any attempt, however, to understand mediated communication and the research enterprise it has spawned reveals a need to trace the family tree back to the history of mass communication and media research.

One of the challenges of such conceptualization is the “moving target” consensus on the nature and impact of communication itself. In addition, “communication and media have simply gotten more important and play a larger role in society itself” (McMillan 2004). The “mass communication” seized on by scholars as an object of study at the dawn of modern communication research in the 1940s is not the same phenomenon that we see in the twenty-first century. This has led to advances in the epistemology of mass communication research and thus in its history.

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Assumptions about mass communication drawn from the era of early audio visual media such as radio and movies often seem to only differ in degree from those reflective of interactive, addressable digital and social media of the 2010s. But there is an active debate now as to whether the basic building blocks of communication theory, the basis for such a history, are generalizable from one medium or technological platform to another. This raises the question whether technological determinism is the driver of both and of the history itself. Some leading authorities doubt this, arguing that American mass communication scientists have been soft on technology as a cause of social change. They believe “that communications technology is *one* cause among others, of social change in American society” and presumably that of the rest of the planet (Lowery & DeFleur 1995). See for this belief some famous protagonists, including Lazarsfeld, Berelson & Gaudet 1944; Klapper 1960; and Berelson & Steiner 1964.

In tracking the history of mass communication and mediated communication research it is notable that some of the most influential early scholars were so disappointed by scientific findings as they sought to prove the impact of communication on elections and consumer behavior that they “tarried awhile,” in the words of Wilbur Schramm, and then moved on – e.g., Paul F. Lazarsfeld. After he had found what he regarded as a disappointingly weak media impact on elections (Lazarsfeld, Berelson & Gaudet 1944), he decided to focus on “personal influence” instead – the title of his second election study (Katz & Lazarsfeld 1955). As other commentators have opined, mass communication research was less a field or discipline than a gathering place. As I will discuss later they may have abandoned the field before the main show had really begun and before ever-advancing technology came into view.

The intellectual conundrum that any exploration of the history of mass communication or mediated communication research faces is that there has never been a unified field theory, and perhaps cannot be one. Those who have tried to synthesize the results of nearly a century of what might be called the history of the field look to a variety of inquiries and investigations that employed different methods (or ways of knowing) to get their results. The only common ground is that mediated communication research made communication and the communication process an object of study. For some it was *the* object of study, for others one of *many* factors in social change.

Early studies of public opinion, propaganda, and the power of the press/media were part of a larger concern that dissected society itself. Later, the studies focused on the impact of media on elections and consumer behavior influenced by the commercial interests of media industries (mostly broadcasting and motion pictures, at first). The work was more pragmatic than theoretical, though theories were derived from both heuristic and empirical studies, sometimes generalizing broadly to describe and explain all communication (face to face, interpersonal, group, and mass). Other inquiries were more narrowly focused and looked only at specific communicators, messages, or media.

Communication research was done by government agencies, universities, foundations, commercial enterprises, and even religious organizations to serve specific agendas where intelligence about the media was useful. Over the years discrete sub-disciplines or specialities evolved and are extant today, including media history, media sociology, media economics, and even, in some instances, media psychology. Early work had no defined institutional or disciplinary home turf and might be tucked into a larger enterprise within a government agency, policy center, or commercial firm. But slowly, schools of journalism, communication, and eventually media studies became hubs where media research was valued and prioritized. There media studies could be the main show, rather than a peripheral concern.

For these reasons, the institutional and disciplinary family tree for the field of mediated communication is complex, often a series of singular instances under a broad umbrella. For decades, *it was what it was* and there was little critical analysis or looking backward to connect the component parts of the epistemology of mediated communication research. However, that changed in the last decades of the twentieth century as self-conscious and introspective scholars considered their enterprise writ large.

1 Search for meaning: A contested history

In an essay on the Chicago School and mass communication research, cultural studies scholar James Carey opined that “strictly speaking, there is no history of mass communication research,” which he dismissed as a “recent literary genre, albeit a minor one” (Carey 1996). This came as news to students of media research history, then gaining followers and inspiring an avalanche of books and articles, one of which contained Carey’s own essay in which he called this search for the roots of the field “a self-conscious creation... that sifts, sorts and rearranges the accumulated literary debris into a coherent narrative” (Carey 1996).

Carey’s warning that there are bigger fish to fry did underscore a central problem in any search for meaning, since the yield of historical probes had come from a hodge-podge of early cultural history, social science, marketing, and audience research. These probes relied on policy papers, memoirs, testimonials and a host of other sources. Most were derived from an empirical tradition which informed mass communication research from the late 1930s forward. This tradition was challenged in the 1970s and 1980s by critical and cultural studies scholars, including a much-cited article on so-called “administrative research” by the critic Todd Gitlin (Gitlin 1978). This was concurrent with what was portrayed as “ferment in the field” chronicled in an issue of the *Journal of Communication* (Gerbner 1982). Its contributors raised doubts about the motivations and political agendas of early and then-contemporary mass communication scholars who sought to explain decades of media research with

a historical frame, connecting leading academics and champions of the genre with the institutions that funded and nurtured them (Schramm 1983). Assessing the sheer volume of this archive and its many ways of knowing is a daunting task and more the job of an encyclopedia than that of a single chapter.

2 Essence of communication theory

The relationships between senders and receivers, between encoders and decoders lie at the heart of communication theory. They were the template for understanding the history of institutional media research – whether sponsored by the military, government, industry, or non-profit think tanks. Much of this history focused on traditional mass media – newspapers, broadcasting, magazines, wire services and other essentially uni-directional communication platforms.

Some industry voices decried the term “mass communication” as marginalizing their own devotion to distinctiveness for each of the individual industries or segments. It was, they said, a conceit of the academy and learned study groups like the Hutchins Commission on Freedom of the Press which gave status to the term “mass communication” in its famed 1947 report and in several associated research volumes (Hutchins et al. 1947). There was little effort to make historical linkages from individual industries to a truly encompassing approach that embraced all media. There may have been protective reasons for some of this as broadcasters and the newspaper industry – while proud of their role and status in society – were none too eager to underscore the power and influence of their medium, lest that inspire criticism and even regulation.

Thus, mass communication research was largely the accumulated findings of individual industry pods with some broader concerns, such as interpersonal research. Sometimes its results were categorized into Harold Lasswell’s famed three functions of media: surveillance of the environment, correlation of the parts of society responding to the environment, and transmission of the social heritage from one generation to another (Lasswell 1948). They roughly lined up to explain media that *inform, influence, entertain, and provide a marketplace for good and services*. The latter provides a useful commercial element in the history of advertising research. It was sociologist Charles Wright who added entertainment to Lasswell’s original formulation (Wright 1975). For all these functions alike, potential research questions were organized by a catch phrase, the “Lasswell formula”: *Who Says What to Whom Through Which Channel With What Effects?*

This functional approach became the lead standard in textbooks and academic courses resulting in a received history of mass communication research. The storyline was familiar in the halls of academe and among industry researchers suggesting that the field traversed a course that began with an uncritical acceptance about the power

of the media, followed by a more cautious diagnosis of “limited effects” and on to a “return to powerful” (but more nuanced) media model.

3 Championing media and media research

One of the most visible champions of this history of the field was the multifaceted scholar and administrator Wilbur Schramm. He had created institutes of communication research at the University of Illinois, Stanford, and the East-West Center in Hawaii. He tirelessly promoted the field in the corridors of power in Washington, in industry and philanthropy, as well as with prestigious validators such as the Social Science Research Council and the American Council of Learned Societies. He was the great synthesizer of the field of mass communication and its origins in a raft of books, monographs, speeches, and articles that together comprise an almost evangelical effort to confer status on the media research enterprise and its history. Not without reason he has been called the founder of the field (Chaffee & Rogers 1997). His output was all-embracing, from general treatises on the process and effects of mass communication to studies of media ethics, national development, and other topics, studied with both quantitative and qualitative methods. Scores of Schramm-trained scholars and their offspring came to dominate the field.

Later critics have dismissed as self-referential and self-serving what was actually a monumental field-building enterprise – a misplaced assessment by those who neither knew Schramm nor saw the generosity of his work. Schramm connected the scattered pieces of a field that became important enough to inspire a revisionist view years later (Pooley 2008: 45, 46). He was the master spokesperson as he told and retold the story of the history of the field, centered on the so-called founding fathers or master teachers (Schramm 1996). Although he might have justifiably done so, he never included himself in this pantheon.

Schramm attributed the field’s post-founding fathers period to scholars lodged mainly in journalism and communication schools, which became home to communication research as some early policy institutes collapsed and were dissolved. This was triggered by social scientists despondent over what became the “limited effects” conclusions (e.g., Klapper 1960). Schramm, however, was convinced of the power of communication: he called the twentieth century “The Communication Century,” a period when communication was expanded, but also transformed utterly with the advent of new technologies, from radio to the internet and beyond.

While the departure of some social scientists from media research to explore other areas of society was a loss to the field, other scholars became adherents of the work. The dismissal of communication research – as not important enough for serious and status-conscious social scientists – often missed the point. While not as compelling as the earlier powerful media model, the limited-effects conclusions were not without

value in a country where elections are often decided by narrow margins and where not all products require mass market sales.

If the history of media effects (the focus of most of the history then) was so conditional that it caused some scholars from fields like political science and social psychology to flee for more fertile ground, there were now new horizons for historians to consider. (Pooley & Katz, 2008) Sure, one of the most eminent communications researchers, Bernard Berelson, declared in 1959 that “the innovators have left or are leaving the field and no ideas of comparable scope and generating power are emerging” (Berelson 1959). But this gloomy assessment was premature and neglected a rich history that had accumulated valuable evidence about an important role of the media in society, developed or led by the so-called founding fathers and their followers (e.g., Rogers & Chaffee 1983).

4 Celebrating achievements, finding purpose

Sociologists like Herbert Gans did continue both media and popular culture research. But Gans, too, complained that media sociology had virtually dried up by the 1980s and beyond (Gans 2012 & Gans 2009). One exception, however, was Melvin L. DeFleur, a mainstream sociologist whose pathfinding books tracked theories of mass communication as the basis for understanding the human condition. One such effort was an inventory that examined “milestones” in research against the backdrop of the so-called “magic bullet” theory that harkened to a powerful media model. Those milestones included reflective analyses of major studies carried out by respected scholars and industry researchers who insisted on rigorous, systematic methods. In their treatise on *Milestones in Mass Communication Research*, DeFleur and co-author Shearon A. Lowery reviewed research largely focused on media effects and influences. They cited the Payne Fund studies of effects of movies on children, Hadley Cantril’s careful investigation of why people panicked when Orson Welles’s “Invasion from Mars” was broadcast, *The People’s Choice* and the role of media in a political campaign, and others that tracked media uses and gratifications, the diffusion of innovations, persuasion, agenda setting, violence, and children and television (Lowery & DeFleur 1995).

These had all been large-scale projects, and the two co-authors acted as connoisseurs of media research in a historical framing – as a purposeful search for an epistemology of mass communication research, essential to understand its origins and development. This was not a casual effort but one that targeted research that inspired theoretical developments, and used sophisticated survey methods or laboratory designs validated by scholars as significant contributions to the literature of the field.

Concurrently, there were several efforts to emphasize the centrality of the field by retrieving and documenting its history. This author along with researcher Ellen

Wartella organized a series of seminars at Columbia University between 1985 and 1994 that led to our book, *American Communication Research: The Remembered History*, which presented the foundational schools of thought in the field. Those included its European roots, the Chicago School, the Yale attitude change program, diffusion research at Columbia's Bureau of Applied Social Research, studies of children and television, and institutional treatments of media.

In that book, and in person in the seminars, we assembled some of the field's founders (in several instances for their last academic appearance), including industry researcher Hugh Malcolm Beville, CBS executive Frank Stanton, and sociologist Robert Merton (who spoke also of his onetime collaborator, Paul Lazarsfeld). Schramm was there as were news researcher Leo Bogart, institutions scholar Theodore Peterson, policy expert Douglas Cater, internationalist Gertrude Robinson, and others (Dennis & Wartella 1996).

These sessions and the historical research they spawned were a rare window on some of the conflicts over the motivations of early researchers then being splayed by young, critical scholars. In one interview Robert Merton was asked about Gitlin's critique of "administrative" research, meaning studies paid for by governmental or commercial interests for self-serving reasons. Why, for instance, did he and Lazarsfeld take part in a study titled, "Does Bloomingdales need a restaurant?" Merton's answer was succinct – "we went to them and other sources for funding for graduate students, they did not seek us out." As he explained, virtually all research has sponsors – and during the Great Depression finding funding was daunting. Seemingly trivial or even innocuous reports might provide the funding for a graduate student's dissertation, as in this instance.

Merton and other early researchers I've interviewed were transparent about funding sources and strived to maintain an intellectual independence that would prevent them from becoming pawns of outside interests. In the post-World War II period, government funding was more plentiful, yet not always easy to track. That said, there was funding, often camouflaged, that came from opaque sources such as the U.S. and Soviet intelligence agencies and military institutions. In some instances, scholars who received such funding were genuinely unaware of the real source – since grants were offered by policy institutes and dummy foundations which seemed legitimate.

Revelations about such funding have surfaced over the years in investigative journalistic reports or in the memoirs of various institutional leaders. However, a history of this and other funding for mass communication research is yet to be written. But while funding for media research and its origins was once available from media-curious foundations and policy organizations, little now exists. The entities that have the most to gain from retrieving such a history, such as the high-tech and digital media giants, live in a world of data analytics and proprietary research not ordinarily accessible to scholars. It is likely that the scale of funding in the early days – from broadcast networks, government commissions, and foundation – was more robust than that

available today. To my knowledge most of the contemporary studies of the *history* of media research, if funded at all, come from university research and professional development accounts or other small-scale sources.

5 Appreciating origins: From mass to mediated communication

Bridging *different ways of knowing* and research traditions in a useful narrative can inform any history of mediated research as does Jesse Delia's expansive history of communication research (Delia 1987). He acknowledges the standard history while offering links to later studies and critiques arguing for a new rubric. Arguing that communication research is indeed important, he cited studies by John Dewey as a window on the influence of pragmatism and progressivism on propaganda analysis, political and social themes, public opinion research, social psychological analyses, educational approaches, commercial studies, and others. These early contributions set the stage for what Delia and others have termed the consolidation of communication science itself.

The field's accepted course of history was a satisfactory explanation as it drew on legacy media examples, but seemed less apt with the advent of computers and interactive communication. As the co-author with DeFleur of a text to help students understand mass communication by including this history (Dennis & DeFleur 2009), the term mass communication itself was widely understood to embrace large audiences with communication that conquered time and space. For this purpose, it relied on an industrial infrastructure. It was thus possible to explain why speaking on a telephone, sending a letter, or making a commercial transaction was not mass communication, while a radio or television broadcast was.

But the term "mass" was less and less useful when applied to discrete audiences being built even then with market segmentation, where the mass was no longer the desired or relevant audience, but rather a demographic subset thereof. The law of large numbers gave way to the law of right numbers. The economics of the field shifted from the largest audience to the most desirable audience, from the point of view of the primary communicator. Eventually data analytics broke out niche markets and addressable media messages, connecting audiences, markets, and platforms, but fracturing any consensus on what distinguished mass communication itself. In the last of eight editions of a book that was a standard text for decades, Melvin DeFleur and I abandoned its long-successful title – *Understanding Mass Communication* – opting instead for *Understanding Media in the Digital Age: Connections for Communication, Society and Culture*. Through several editions (1981–2010), we grew less comfortable with an epistemology that began with basic communication theory but connected it to an industry model of discrete units, although economic ownership represented by

large media conglomerates had long before organized the various platforms under one roof.

It took the rise of *convergence* – wherein all forms of communication came together in a single computer-driven electronic system, namely the *digital age* – before *mediated communication* was clearly a comfortable and useful term. More recently, convergence has been joined by *disruption* to explain the modern media marketplace. It was rather matter-of-factly that we wrote: “mediated communication is, after all, interpersonal communication aided by sophisticated media technology that conquers both space and time” (Dennis & DeFleur 2010: 7, 14–15). And, of course, as mediated communication gained acceptance, it also coped with this new concept of disruption that explained fissures in the new industries and how they evolved, although that term itself is under some scrutiny as an explanatory device.

The advertising industry, which invented the term “media” long before the individual platforms and industries accepted it, was an early leader in harnessing computer power to do audience research, thus paving the way for the explosive world of digital communication and its own new media platforms. Although the term “mediated communication” became more common and even claimed book titles, its definition was most often simply stated as “any form of information humans present or exchange by means of a computer. This information can be imparted to oneself, to another person or a group of people or even to an imaginary audience” (Kelsey & St. Amant 2008).

The term “mediated communication” is also linked to computer-mediated communication (CMC), which likewise can be a “one to one or one to many transaction, a synchronous (real time) or asynchronous (time delayed) process and involve modes of interaction as diverse as typed text, spoken discussions or visual/video messages” (Kelsey & St. Amant 2008). With the arrival of high-speed internet, and a whole array of digital and social media, the concept of *mediated communication* became the moniker of choice to describe the multi-faceted nature of human communication. Mediated communication is sometimes called *mediated interaction* and occasionally *mediated discourse*. It is always associated with information and communication technology – and can be contrasted with face-to-face communication.

Among the efforts to better define the nature and scope of mediated communication are those that construct a taxonomy not from theoretical speculation but from the reality of how new media enterprises actually function. These taxonomies are typically found in media economics and management studies where the economic system itself provides a template for organizing the activity therein. By focusing on digital media enterprises, it is possible to see the connection with traditional or legacy media wherein new media extend and expand old media options, compete with old media, replace old media or create an entirely new medium.

By drawing on the expert views of industry leaders and top executives, it is possible to consider the structure of mediated communication, its market, target

audiences, and consumers (Dennis & Ash 2001). This can clarify both similarities and differences between analog and digital media, between the assumptions of mass communication theory and those of contemporary mediated communication. A taxonomy allows for a high-level mapping of the field that can be joined with cultural studies scholars' focus on content and the supposed motivations of content creators and media ownership. This reinforces the notion that, while there is a rich tapestry that captures the history of media research, there is no single explanation for its development and impact.

6 The digital challenge

Those who argue that the history of mass communication research is only tangentially related to the history of mediated communication are mistaken, I believe, because they focus too closely on digital communication which is highly interactive and addressable. Thus, they sometimes argue that such durable theoretical assumptions as the *two-step flow of communication* or *agenda setting* are dysfunctional because of the ability of an individual to communicate anywhere, anytime with a smart phone or laptop computer, thus bypassing the massive infrastructure of earlier times when broadcast stations or newspapers with their production operations could occupy a whole city block.

The notion that the *built environment* is declining in importance (witness the teetering and possible demise of shopping malls, multiplex theaters, book stores and other physical plants) in the face of home banking and the online presence or “Amazonization” of almost everything ignores that massive resources are engaged to design and manufacture computer hardware and software. Also, new organizations have sprung up to acquire, process, and disseminate information, whether on a small or large scale, but generally more nimbly than was the case with old industrial media. The organizational components that were required in the past and led to histories of individual industries and industry leaders have been superseded by histories of the World Wide Web, and of the various disruptive enterprises from Amazon to Microsoft, Google, Twitter, YouTube, and others. It is too early to call such chronicling “history” given the shortness of time since they were founded – and lack of connected analysis. But it can be linked to the larger narrative of mass communication research as will be demonstrated in subsequent chapters of this book.

While focusing on the process and effects of communication, mass-communication history scholars have also veered into issues of ownership and structure as well as personalities of leading figures. Thus they give less attention to the impact of technology on meaning, which is at the core of the contemporary history of mediated communication. Any history that emerges will be a history of processes, as John December suggests, “by which people create, engage, and perceive information using

networked telecommunication systems (or non-networked computers) that facilitate encoding, transmitting and decoding messages” (December 1997).

One effort to consider the internet impact on long-standing theories of mass communication came in a symposium honoring media scholar Philip Meyer (Raising the Ante 2008). This was an effort to determine whether the new digital media system could rightly be examined with terms and concepts used to study the old system of mass communication. While finding some parallels, the conferees warned that such an approach could miss the nuances of the differences. For example, long-standing media use studies were linked to community ties, but with digital media the concept of community need not have geographic boundaries. Similarly, the much tested two-step flow introduced by Paul Lazarsfeld in 1940 posited the flow of information from opinion leaders to media to the wider public, a model upended by the complexity of interactive and addressable communication in the modern age that suggests possible multi-step flows or even two way flows or other formulations. Not surprisingly in the new media ecosystem, agenda-setting theory, introduced by McCombs and Shaw in 1968, is subject to reinterpretation as the question of “who sets the agenda” for news is now very much in play, with social media often outdistancing traditional sources and opinion-makers. Similar concerns were raised about cultivation theory which was so closely associated with television studies. The revisionist views of minimal effects theory, widely accepted since the 1960s, are also under examination in light of the apparent impact of social media on revolution and change, as are diffusion theory, uses and gratifications, and other popular academic formulations. What this symposium and its proceedings encapsulated was the critical need for more multifaceted and integrative research. A key consideration is whether the media are indeed different and more complex in this mediated communication era.

7 European contributions to mass communication research

Various scholars have declared that any history of mass communication research is essentially an American enterprise. A protagonist of this idea was Elihu Katz, one of many who cited the founding fathers as Frank Stanton, Paul Lazarsfeld, Robert Merton, Harold Laswell, and Carl Hovland. But he may not be quite right, as the earliest field-defining study was Max Weber’s work on “the sociology of the press,” dating to 1909 and 1910 in Germany, some of which was augmented in his papers as late as 1918. This investigation was a foray into understanding modernity through public opinion and the newspaper as an economic organization. Kurt and Gladys Lang have noted that such protean figures as Lasswell and sociologist Robert Park (author of the benchmark “Natural History of the Newspaper”) had studied in Germany and several

of the leading lights noted above (especially Lazarsfeld) and others migrated from Germany and Central Europe during the 1930s (Lang 1996).

The first half of the twentieth century also saw studies of propaganda and public opinion in the U.S., Britain, and elsewhere. The massive trove of German and other European mass communication studies, few of them translated into English, are largely unknown to American scholars. Essentially ethnocentric Americans are more familiar with British media studies, often involving cultural studies and political economy, but again rarely integrate this work into a holistic narrative of the field.

Three examples:

In the four volumes of his monumental work *Die Zeitung* (“The Newspaper”), which were published from 1928–1930, the German historian Otto Groth not only collected all the evidence that, two decades later, the “Lasswell formula” would suggest to investigate about the mass-communication process. Groth used the most influential medium of his time (Germany had about 4,500 newspapers) to discuss normatively not only the history, economy and the legal regulations of newspapers, but also the sociology and psychology of this medium – from journalism research to media effects.

As early as 1962, German psychologist Gerhard Maletzke addressed doubts about the “mass” nature of “mass communication” in his classic *Psychology der Massenkommunikation*. Maletzke suggested a fresh – and strongly influential – definition of what we mean by “mass communication.” He abandoned a “mass” audience as a defining criterion. For him, mass communication typically was any form of communication that fulfills four conditions: It is *uni-directional* (i.e., there is virtually no interaction between sender and recipient), *indirect* (because transmitted technically), targeted at an audience *dispersed* in time and/or space, and *public*, i.e., in principle nobody is kept from becoming a member of that audience. These criteria typically apply to television, movies, or newspapers as “mass media” and exclude phone conversations, love letters, or rock concerts.

In Europe, Elisabeth Noelle-Neumann became famous for her “spiral of silence” (1980), but also for her indefatigable work since the 1960s on a revival of *influential* media after the “limited effects” model. Three characteristics make media actually powerful: their long-term, “constant-dripping-wears-away-the-stone” effects; their strong impact on cognitions as a precondition of attitude and behavioral changes; and finally, the fascination of television as an audio-visual medium. It is capable, Noelle-Neumann wrote, of reaching and convincing even those not interested in a topic (i.e., its “trap effect”) (Schoenbach & Lauf 2002)

When examined closely these examples and others provide a contrast between European and American communication research and its history. The structural and economic underpinnings of the two systems essentially pit a public service model in Europe, wherein governments and government subsidies are paramount, against a U.S. commercial enterprise model based on a market economy system. The result, according to British scholar Jay Blumler, were intellectual influences that highlighted

three prominent features of European media research, including: its holistic approach that argues that mass communication is not to be studied on its own merits, but in the context of the surrounding social order; a commitment to multiple methods of research rather than reliance on a single social scientific approach such as survey methodology; and little tradition for audience-level inquiry (Blumler 1985). Perhaps because of the holistic nature of European media research and the lack of interest in synthetic studies and compilations, as in America, there has been less self-conscious focus on the history of the field. These commercial and public service distinctions have changed in recent years as European communication has increasingly opted for a market system and as a few examples of non-profit, foundation-funded media have appeared in the U.S.

8 Contexts for communication research

Understanding the origins of mediated communication research requires consideration of the contexts and venues where that research occurred, and will occur. As I've noted in this chapter, media research has been an eclectic enterprise, with purely theoretical roots among some scholars, but more likely it is the product of practical problem solving. Governments seek to understand public opinion and the effects of propaganda, media industries focus on audiences and their preferences, foundations and think tanks follow their policy goals and objectives, and advertising agencies and PR firms serve the interests of their clients. University researchers, while claiming an intellectual idealism guaranteed by academic freedom, in fact draw on all of the stakeholders for funding, platforms for research dissemination, and other benefits.

Perhaps all knowledge is influenced by these and other interests, but even in the face of this, media scholarship and media and communication studies have advanced with greater rigor and greater impartiality over recent years. Factors include the integration of journalism and communication schools and departments into unified schools. Journalism schools and traditional speech departments conducted media research from different perspectives. The consolidation of these academic departments and schools into a single unit has benefitted multi-disciplinary research linking the several social science methods (survey research, content analysis) with humanistic and critical approaches of a qualitative nature (history, cultural studies, literary analysis, legal research, and others). Secondly, after abandoning media studies for other pursuits, social science departments such as sociology, political science, and American studies are once again home to media research. And while a number of famed media research centers have been shuttered due to lack of interest among foundations and other funders, more holistic think tanks now include media research in their mandates. Others that focus on foreign policy now welcome media studies.

Once an orphan concern in universities and centers of intellectual leadership, media research is now viewed as important and worthy of priority study.

9 Utility and value of media research

Given this brief foray into the history of the field, what relevance does the history of mediated communication research have in understanding this continuing and new scholarly arena? There are several reasons to attend to this history – and the historiography from which it springs.

First, this history helps track the changing definition of media and mediated communication, and points up the subtle and overt differences as the very nature of communication has advanced.

Second, it has utility in monitoring dramatic, but also incremental, changes in media technologies and their use, allowing us to explain the transition from early studies to contemporary work.

Third, it points to different interpretations of different ways of knowing, including both philosophical traditions and the strength and frailties of different research methods. Some critiques are quite savage in skewering early researchers, their motives and methods, reminding us that every generation will construct its own revisionist history.

Fourth, it offers evidence of the contributions of several discrete disciplines and how they have shaped the field.

Fifth, and finally, it offers a basis on which future tracking and analysis of the history of the field can be grounded.

Thus, an appreciation for the early work of media researchers counters the notion that mass communication research and its progeny is a narrow, technologically-based approach. Instead it is rich in definitional power – despite the arguments it has inspired and the questions raised about its founders and their disciples. This is what James Carey would have called a “grand conversation” that ultimately provides perspective and advances the field. It underscores that there is one media ecosystem that has evolved incrementally and in lurches. It benefits from the multiple scholarly inquiries that have charted its development and course. Whether one is talking about media effects, usage, audiences, content, or technology, perusing their history helps us understand them.

Notes

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Part II: **Theoretical Perspectives**

Michael G. Elasmr

3 Media Effects

Abstract: Researchers have long been interested in measuring, describing, and predicting the motivations for consuming media content and the potential effects that result from individuals' exposure to mediated communication messages. With the new generation of media effects scholars in mind, this chapter first presents the reader with a chronological list of seven classical media effects theoretical frameworks. This is followed by a contextual background and summary of the main arguments made by each of the theories identified, a synthesized account of its evolution over time, and a paragraph or two about its likely relevance in the new media environment. This chapter then addresses the need for an integrated media effects theoretical framework that is extracted by combining across the predictions made by the theories reviewed. An integrated media effects theoretical framework is then presented as a starting point for the new generation of media effects scholars to test, modify, and develop.

Keywords: Media effects, theoretical frameworks, new media environment, theory development, integrated theoretical framework

The age of electronic media brought with it a wide array of messages that are simultaneously consumed by very large audiences. For about a century, scholars from a broad range of disciplines have conjectured, surmised, debated, investigated, discussed and otherwise paid close attention to the effects that might result from consuming mediated messages. What falls under the topic of media effects, however, has varied greatly over the years. As Schramm (1974: 4–5) said more than three decades ago in the context of human communication, “the difficulty of summing up a field like... [media effects] is that it has no land that is exclusively its own.” Not only does attention to media effects cross disciplines, but the media themselves have continuously evolved and, in the past two decades, have experienced accelerated growth in reach, types, scope, and platforms. A lot has happened in the world of mediated communication since Schramm made that statement. Given the page limits of this chapter, I will adopt a narrow definition of “media effects.” Here, the study of media effects is confined to perspectives that have used scientific methods to study the conditions that facilitate exposure to mediated messages and the consequences that result from having been exposed to mediated messages at the micro-level of analysis.

Researchers have long been interested in measuring, describing, and predicting the motivations for consuming media content and the potential effects that result from individuals' exposure to mediated communication messages. Excellent summaries of their work can be found in a wide range of academic journals, textbooks, and scholarly compendia (e.g., Schramm & Roberts 1974; DeFleur & Ball-Rokeach 1989; Lowery & DeFleur 1988; Kamhawi & Weaver 2003; Bryant & Oliver 2009; Stacks & Salwen

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2009; Neuman & Guggenheim 2011; Griffin, Ledbetter & Sparks 2015). This chapter takes a slightly different approach to the synthesis of media effect theories. With the new generation of media effects scholars in mind, the first section presents the reader with a chronological list of what I call classical media effects theoretical frameworks. This is followed by a contextual background and summary of the main arguments made by each theory, a synthesized account of the evolution of each theory over time, and a paragraph or two about the likely relevance of each of these frameworks in the new media environment. This chapter then addresses the need for, and proposes a starting point for, an integrated media effects theoretical framework that is extracted by combining across the predictions made by the theories reviewed.

1 Classical media effects theoretical frameworks

When asking which media effect theories can be called classical, the answer often depends on the individuals you ask, the university they attended, the mentors they had, the paradigm in which they were trained, and related factors. Neumann and Guggenheim (2011) report that Anderson (1996) had found some 249 media effect theories in existence with only 7% of these cited in more than three publications. Many inventories of media effect theories exist today (e.g., Kamhawi & Weaver 2003; Bryant & Miron 2004; Bryant & Oliver 2009; Stacks & Salwen 2009; Neuman & Guggenheim 2011; Griffin, Ledbetter & Sparks 2015; Valkenburg, Peter & Walther 2016). This chapter looks at micro-level quantitative media effect theories that frequently appear across inventories, then picks seven from among them that capture the various schools of thought pertaining to media effects. The seven selected theories are listed in Table 1.

Table 1: Chronological order of the chosen classical media effect theories.

Theory	Origin time	Proposers	References
Two-step Flow Theory	1948	Put forth by Lazarsfeld, Berelson & Gaudet	Lazarsfeld, Berelson, and Gaudet 1948; see Katz 1957
Selective Exposure	1957	Put forth by Festinger	Festinger 1957; see Festinger 1964
Uses and Gratifications Theory	1968	Term used by Lundberg and Hultén	see Katz, Blumler, and Gurevitch 1973
Cultivation Theory	1967	Put forth by Gerbner	see Gerbner 1969; see Gerbner 1998
Agenda-setting Theory	1968	Put forth by McCombs and Shaw	McCombs and Shaw 1972; see McCombs and Shaw 1993
Spiral of Silence	1974	Put forth by Noelle-Neumann	Noelle-Neumann 1974; Salmon and Kline 1983
Media Dependency Theory	1976	Put forth by Ball-Rokeach & DeFleur	Ball-Rokeach and DeFleur 1976; see Ball-Rokeach 1985

While the media effect theories listed in Table 1 will be the focus of this chapter, it is important to remember that there are at least 200 other media effect theories in existence today. Not including a specific media effect theory in this chapter should neither be interpreted as disrespect to its authors nor a dismissal of its merits. Every theoretical effort within this field would have been worth including had this chapter not been limited in length.

2 Evolution of media effect theories

In the paragraphs below, I will summarize each of the theories that were listed in Table 1 and provide the reader with the characteristics that distinguishes each from the others.

2.1 Two-Step Flow Theory

The Two-Step Flow Theory focuses on the interplay between media influence and interpersonal influence in affecting individuals' beliefs, attitudes, and behaviors. To truly appreciate the role that this theory has played in our understanding of media effects, one needs to look at the theoretical context that prevailed before two-step flow was proposed.

In the 1920s and 1930s, the new ability to communicate simultaneously and over large distances with very large audiences was accompanied by a belief that mediated communication was very powerful. This belief was prompted and reinforced by the propaganda efforts of countries involved in World War I and II (see Elasmr 2017). The core argument of what came to be known in the field of mass media as the “Magic Bullet Theory” or “Hypodermic Needle Theory” is that mediated messages result in strong and homogenous effects on those who are exposed to these messages (see Bineham 1988).

The prevailing belief in the powerful and homogenous influence of mass media lasted around four decades. By 1948, scholars who had found that media exposure alone was not a good explanation for why audience members varied in terms of beliefs, attitudes, and behaviors began searching for additional explanatory factors (see Katz 1957). Lazarsfeld, Berelson, and Gaudet (1948) introduced what is often labeled as the “two-step flow” model. This model proposed a limited and indirect effect of mass media based on empirical studies conducted during the 1940 and 1944 U.S. presidential elections (Katz 1957). They suggested that “ideas often flow from radio and print to the opinion leaders and from them to the less active sections of the population” (Lazarsfeld, Berelson & Gaudet 1948: 151). In essence, Lazarsfeld, Berelson, and Gaudet (1948) added interpersonal influence as a second factor needed for understanding the effects of media on their audiences.

2.1.1 Developments in Two-Step Flow Theory over time

The new line of thinking introduced by the Two-Step Flow Theory evolved over time to help explain the interplay between interpersonal and media influence. Katz and Lazarsfeld (1955) expanded the examination of opinion leadership in the two-step flow process in areas other than election campaign, such as marketing, fashion, public affairs, and movie-going. They found that “opinion leaders tend to be both more generally exposed to the mass media, and more specifically exposed to the content most closely associated with their leadership” (316). Katz (1957) confirmed that personal influence is both more effective and more frequent as compared to mass media in influencing people’s attitudes and opinions. The interplay between interpersonal and media influence was further described by Van den Ban (1964: 263), who conducted a study on “the diffusion of new farming methods in the Netherlands” and proposed that “both opinion leaders and their followers are influenced by mass media as well as by personal influence.” Van den Ban found that the mass media play an essential role in “arousing the interest” early in the process of accepting a new idea, while personal contacts exert more influence at a later stage (274).

As the years went by, the two-step flow model evolved and was further refined. Instead of limiting the model to two steps, Robinson (1976) postulated a multi-step process by investigating the 1968 U.S. presidential elections. He constructed a “three-category typology of personal influence,” identifying “opinion givers,” “opinion receivers only,” and “inactive or non-discussants” (311–312). He also divided the concept of “idea” (see Van den Ban’s mention of “new idea” in the earlier paragraph) into “information and influence” (306).

Another modification of the Two-Step Flow Theory was proposed by Weimann (1982). The study focused on the role of “marginals” in the interpersonal network (768). Weimann (1982) found that most of the information flow is carried out by the “centrals,” and the flow is more accurate and faster than the flow carried out by “marginals.” The centrals were said to be more active in intragroup information flow, while the marginals carry out most of the intergroup flow. Weimann recommended that a horizontal step “marginals to marginals intergroup bridges” be added to the two-step flow model (769).

Weimann and Brosius (1994) integrated the concept of agenda-setting into the role that opinion leaders play. They also used the Strength of Personality scale to identify the opinion leaders, or “influentials” (325).

2.1.2 Relevance of Two-Step Flow Theory in the new media environment

How is the Two-Step Flow Theory relevant in the new media environment? For one, the concept of what constitutes “media” has changed. Case and colleagues (2004) concluded that the Internet has challenged two-step flow, as the Internet is often the first information source individuals use to find answers to their questions. While

these authors found the Internet to be a primary source of information, Norris and Curtice (2008) suggested that there may be a two-step flow process online based on their study of the 2005 British general election. They proposed a two-step flow of information “initially from party managers to local online activists” and then “from online activists to the broader electorate” (11).

In the new media environment, it will undoubtedly remain important to study how interpersonal influence at times combines with, and at other times interacts with media consumption, and how these two factors influence the beliefs, attitudes, and behaviors of media users.

2.2 Selective Exposure

As scholars continued their in-depth investigations of the influence of media exposure, they turned their attention to the events that take place before an individual is exposed to specific mediated messages. Beginning in the 1940s, social scientists observed patterns of empirical evidence that suggested that humans were deliberately choosing to consume specific types of messages. This was a radical departure from the assumption of uniform exposure that was at the heart of the Magic Bullet Theory (see Smith, Fabrigar & Norris 2008). Selective Exposure refers to active decisions by audience members to consume specific types of messages.

2.2.1 Developments in Selective Exposure over time

Selective Exposure stemmed from the Cognitive Dissonance Theory proposed by Festinger in 1957 (see Frey 1986). Cognitive Dissonance Theory refers to the idea that humans who are exposed to messages that contradict their beliefs will feel uncomfortable and, as a result, will seek messages that are compatible with their beliefs.

In response to critiques of his initial articulation of Cognitive Dissonance, Festinger (1964) revised his theory and added many conditions under which Selective Exposure may not be applicable. He stated that “avoidance of potentially dissonance-increasing information would be useful in the service of dissonance reduction only if the person feels unable to cope with the new information in its details. And, of course, such avoidance would be observed only under circumstances where other reasons for exposure, such as usefulness or curiosity, were absent” (96). Freedman and Sears (1965: 90) stated that “...exposure is determined by a great many complex factors which are incidental to the supportiveness of the information.”

Sears and Freedman (1967: 209–211) listed three factors that may influence people’s voluntary exposure: “education and social class,” “utility of information,” and

“past history of exposure on the issue.” These authors acknowledged that many other factors may affect an individual’s decision to expose themselves to a specific message.

As scholars focused on the ideas set forth by Cognitive Dissonance Theory, they realized that many pieces of the puzzle involving Selective Exposure were missing. Olson and Zanna (1979) tested the post-decisional dissonance-produced selective exposure. They investigated individual differences by incorporating the “repression-sensitization” personality dimension (4). They found that repressors experienced dissonance-produced selective exposure, while sensitizers did not.

Frey (1986) discussed the factors that predict information selection and evaluation and stated that many contingent conditions were proposed after 1965. Frey summarized that people may not avoid dissonant information when “the cognitive system is so stable that the dissonant information can be easily integrated” or “when the cognitive system is so unstable that the addition of consonant information will be seen as being, in the long run, less effective in reducing dissonance than would be changing the cognitive system” (73). Other factors such as “usefulness,” “the cost of information,” “perceived reliability and validity,” “self-confidence,” “dogmatism,” “repressor-sensitizer,” and “manifest anxiety” may also influence the effect of selective exposure (59–69).

In the second millennium, more researchers continued their search for additional building blocks for Selective Exposure to better explain its process. Brechan (2002) found that people who trusted their attitudes and knowledge were more likely to consume consonant information as compared to people who had doubts. In a meta-analysis, Hart, Albarracin, Eagly, Brechan, Lindberg, and Merrill (2009) examined the role of “defense motivation” and “accuracy motivation” in moderating selective exposure. Defense motivation refers to “the desire to defend one’s existing attitudes, beliefs, and behaviors,” and accuracy motivation refers to “the desire to form accurate appraisals of stimuli” (557). They found that “moderators associated with defense motivation uniformly increased the selection of congenial information,” whereas “moderators associated with the accuracy motivation” increased “an un-congeniality bias” when “uncongenial information was relevant to accomplishing a current goal” (555–579).

Stroud (2010) tested the relationship between selective exposure and political polarization. The author found that “congenial media exposure contributes to higher polarization” (570). Wicks, Wicks, and Morimoto (2014) examined selective exposure based on the 2012 U.S. presidential campaign. They found that conservatives were more inclined to use “talk radio, Christian broadcasting, and Fox News,” whereas liberals were more inclined to use “PBS and Facebook” (1140).

2.2.2 Relevance of Selective Exposure in the new media environment

The new media environment makes selective exposure a lot more possible since sources of information are fragmented along many different beliefs and attitudes.

However, the search for online information that is consistent with one's beliefs might not always be the norm. Valentino, Banks, Hutchings, and Davis (2009: 606) looked at online users and found that "anxious citizens are more likely to seek balanced information when such information is useful for dealing with a threat or a problem." Garrett, Carnahan, and Lynch (2011: 130) state that "individuals who seek ideologically consistent news sites are not systematically avoiding other news sites." Messing and Westwood (2012) examined selective exposure in the context of social media. They found that the presence of social endorsement "reduced partisan selectivity to levels indistinguishable from chance" (1056). Jang (2014) investigated selective seeking and avoidance behaviors online, confirmed a pattern of selective exposure, but also showed that participants did not "systematically avoid attitude dissonant information compared to neutral information" (665).

There is no doubt that the new fragmented media environment can facilitate selective exposure (see Stelter 2016), but the conditions that trigger and moderate the selective exposure processes still need to be fully uncovered.

2.3 Uses and Gratifications Theory

Uses and Gratifications (U&G) is yet another theoretical perspective that focuses on the steps that precede an individual's exposure to mediated messages. In contrast to the cognitive consistency motivation at the heart of Selective Exposure, U&G posits that audience members choose to consume specific media content to meet their specific needs and achieve particular gratifications.

2.3.1 Developments in Uses and Gratifications Theory over time

The Uses and Gratifications approach traces its origins to the 1940s. Katz, Blumler, and Gurevitch (1973) stated that a series of early studies on media usage attempted to determine why audiences choose to consume specific media content. They credited the specific coining of the term "Uses and Gratifications" to a 1968 publication by Lundberg and Hultén.

The Uses and Gratifications (U&G) research tradition resulted in numerous studies in the 1970s. From the 1970s to 1990s, Greenberg published many papers that were based on the U&G approach (e.g., Greenberg 1974; Greenberg & Hnilo 1996). During the 1980s and 1990s, U&G scholars were more systematic in "conducting modified replications or extensions of studies," "refining methodology," "analyzing comparative findings of separate investigations," and "treating mass media use as an integrated communication and social phenomenon" (Ruggiero 2000: 7). During these decades several theoretical components were added to the U&G perspective to

account for the variation in how active the audience was found to be and explain the differences across study findings. These theories included Dependency Theory, Deprivation Theory, Time Relation Theory, and the notions of variability of involvement in content, ritualistic and habitual media use, media utility, and media selectivity (Ruggiero 2000).

Rubin (1981: 147) proposed nine motivations for watching television: “pass time/habit, companionship, arousal, program content, relaxation, information, escape, entertainment, and social interaction.” In more recent years, U&G studies have focused on identifying the specific uses and gratifications associated with particular TV genres. Papacharissi and Mendelson (2007: 355) found “habitual pass time and reality entertainment” primary motives for watching reality TV shows. Cortese and Rubin (2010) uncovered a combination of TV viewing and shopping motivations in the context of exposure to home shopping channels. The TV viewing motives include: “habit, companionship, excitement, relaxation, escape and entertainment” whereas the shopping motivations include “convenience, saving time, saving money, learning about products and combating dissatisfaction with stores or malls” (102).

2.3.2 Relevance of Uses and Gratifications Theory in the new media environment

In the post 2000 years, U&G researchers turned their attention to Internet usage. Parker and Plank (2000: 48) pointed out that gratifications for using the Internet are the same as those found for traditional media, and proposed that the “motivations for using the media are stable and may not be media dependent.” Charney and Greenberg (2002: 393) proposed a list of eight new gratifications associated with Internet usage: “keep informed, diversion entertainment, peer identity, good feelings, communications, sights & sounds, career, and coolness.” Song, Larose, Eastin, and Lin (2004: 384) uncovered seven other gratifications associated with Internet usage: “virtual community, information seeking, aesthetic experience, monetary compensation, diversion, personal status, and relationship maintenance.”

The arrival of social media provided yet another research opportunity to U&G scholars. Quan-Haase & Young (2010: 350) revealed six gratifications associated with using Facebook: “pass time, affection, fashion, share problems, sociability, and social information.” Bonds-Raacke and Raacke (2010: 30) identified three categories of gratifications for using Facebook and Myspace: information (“to post social functions, to learn about events, to share information about yourself, for academic purposes, and to post/look at pictures”); friendship (“to keep in touch with old friends, to keep in touch with current friends, to locate old friends”); and connection (“for dating purposes, to make new friends, to feel connected”). Whiting & Williams (2013: 362) found the following motivations and gratifications associated with using social media: “social interaction, information seeking, pass time, entertainment,

relaxation, communicatory utility, convenience utility, expression of opinion, information sharing, and surveillance/knowledge about others.”

The U&G research tradition has also been applied in the context of smart phone usage. Leung and Wei (2000: 316) found that “mobility, immediacy, and instrumentality” are three strong motivations for using smartphones. Ho and Syu (2010: 315) found “relaxing and relieving stress” to be primary gratifications for using various mobile applications.

One unique feature of new media is that users can create content of their own. Shao (2009: 18) found that users who generated content did so for “self-expression and self-actualization.” Leung (2009: 1336–1337) categorized four factors that motivate users’ generation of content online: “recognition needs,” “cognitive needs,” “social needs,” and “entertainment needs.” Poon and Leung (2011: 17) found four motivations that predict the production of online content in their study, which are “affection, recognition needs, inclusion, and venting negative feelings.”

The new media environment is characterized by a plethora of platforms, channels, and content. In addition to traditional audio-visual sources on cable, satellite, and the Internet, audiences consume content on video game consoles, virtual reality goggles, smart phones, and many emerging devices. Audiences are also producing content on many platforms. This new media environment constitutes fertile grounds for the study of what drives individuals to select specific platforms and contents.

2.4 Cultivation Theory

Concerns about the effects of exposure to TV content over time prompted the emergence of Cultivation Theory. The main argument of Cultivation Theory is that audience members’ perceptions of their social environment will progressively be tainted by the representations of that social environment on TV programs.

2.4.1 Developments in Cultivation Theory over time

By the late 1950s, television had become a mass medium in the United States. At the time Gerbner was formulating his cultivation hypothesis, violence was a major theme on U.S. television programs and in American films (Gerbner 1970). Many scholars were concerned that violent images could “raise issues of conflict, fear, and power that reach into the structure of societies on the broadest, deepest, and, at times even the highest levels” (Gerbner 1988: 7). They attempted to reconcile the differences between anecdotal observations about the influence of media exposure, and the lack of empirical support for the strong media effect theories that had previously been proposed. Instead of the instant effects that many scholars expected to stem from

exposure to media, Cultivation Theory took a long-term and broad approach to studying the influence of media exposure.

Cultivation Theory was derived from the Cultural Indicators project, which began in 1967 with “a study for the National Commission on the Causes and Prevention of Violence” (Gerbner 1998: 175). The Cultural Indicators project monitored the “central streams of television’s dramatic content since 1967” and started exploring the “consequences of growing up and living with television since 1974” (177). The general hypothesis of Cultivation Theory is that heavy consumers of television are more likely to see the real world in a way that is consistent with how television shows it to be (Gerbner et al. 2002).

Two new concepts, “mainstreaming” and “resonance,” were added by Gerbner, Gross, Morgan, and Signorielli in 1980 (see Shrum & Bischak 2001). Mainstreaming proposed that television viewing “cultivates common perspectives and a relative homogenization” (Morgan, Shanahan & Signorielli 2014: 485). Resonance proposed that “when what people see on television is most congruent with everyday reality, the combination may result in a coherent and powerful ‘double dose’ of the television message and significantly boost the cultivation” (Gerbner et al. 1980: 15). Gerbner, Gross, Morgan, and Signorielli (1986: 28) argued that television both cultivates “general values, ideologies, and perspectives as well as specific assumptions, beliefs and images,” and the “extrapolation beyond the specific facts.” Potter (2014) reviewed the literature on cultivation and made several observations:

1. Whereas traditional cultivation analysis focused on long-term effects, more recent studies focus on short-term effects;
2. Whereas traditional cultivation research focused its attention on the meanings conveyed by media messages, more recent studies have begun to focus their attention on the meanings as they exist within the mind of audience members;
3. Whereas the cultivation effect has traditionally been seen as a “black box,” more recent studies have attempted to explain the roles that information storage and retrieval from memory and other aspects of cognitive processing play in the context of the cultivation effect.

The environment that led to the formulation of the cultivation approach to media effects was characterized by heavy TV consumption. What will the future hold for cultivation theory in an era that has witnessed a shift away from traditional TV consumption?

2.4.2 Relevance of Cultivation Theory in the new media environment

The new media environment is characterized by traditional audio-visual channels that exist alongside computer mediated audio-visual information. As early as (1993), Potter asked whether the cultivation effect would still be relevant in a media

environment that is not characterized by few and homogenous TV channels. Gerbner and his colleagues contended that Internet usage not only can coexist with TV viewing, but can also encourage and enhance the TV viewing experience and deepen the reach of mainstream media channels (Gerbner et al. 2002).

Although audiences today are more fragmented and polarized, they still have high levels of overlap in their content exposure (Webster & Ksiazek 2012). Morgan, Shanahan, and Signorielli (2014: 481) proposed that television continues to “provide common images to virtually all members of its society, and its key messages and lessons cut across different programs and channels” regardless of the new media technologies and digital platforms.

Media consumption patterns during the 2016 U.S. presidential elections show that, in the new highly diverse media environment, audiences are choosing media channels based on their ideological orientations (Stelter 2016). If this pattern of media exposure holds true over time, and across types of media content, then we can anticipate that homogeneous media messages will not reach everyone within a specific society. Instead, homogeneous messages will reach groups of individuals that selectively attend to specific audio-visual information regardless of whether these messages are delivered by TV or other media. If this prediction is true, then the cultivation hypothesis might have to morph from one that is broad and characterized by a weak effect that extends across an entire society, to mini-cultivation hypotheses that are characterized by a strong effect found within specific audience/media user groups that receive homogenous messages.

2.5 Agenda Setting Theory

While Cultivation Theory primarily focused on entertainment television, by the early 1970s many researchers had turned their attention to studying the impact of exposure to news. How does news exposure affect media consumers? Cohen (1963: 13) inspired the development of Agenda Setting Theory with his claim that the media “may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about.”

2.5.1 Developments in Agenda Setting Theory over time

McCombs and Shaw coined the term “Agenda Setting,” brought the Agenda Setting function of the news media to the attention of scholars, and formalized a research program to study the process by which the news media achieved this specific effect. The earliest published investigation that focused on the Agenda Setting effect emerged in 1972. McCombs and Shaw (1972) established the existence of strong correlations

between voter attention to key issues and news coverage of these same issues. They also found a high degree of homogeneity in the selection of issues covered by a variety of media sources.

Approximately twenty years after the publication of this initial foundation article for Agenda Setting Theory, McCombs and Shaw (1993: 59) assessed that Agenda Setting Theory evolved in four phases: 1. the original (1972) research; 2. the replication of original findings and emergence of “contingent conditions”; 3. the study of “agenda of candidate characteristics” and “agenda of personal politics concern”; and 4. the emergence of a research focus on “media agenda.” As part of its evolution, Agenda Setting Theory became associated with a series of theoretical developments about the influence of news media on its viewers. Among these were the study of: salience, personal concerns, candidate attributes, newsworthiness, framing (see Iyengar, Peters & Kinder 1982; Entman 1993; Weaver 2007), and priming (see Iyengar & Simon 1993; Weaver 2007; Scheufele & Iyengar 2014). Agenda Setting Theory also broadened its focus, not only studying the effects of news exposure on audience members, but also the processes that led to the selection of Agenda Setting news topics by news organizations (McCombs & Shaw 1993).

McCombs (1997) expressed the evolution of Agenda Setting research in terms of different levels. He explained that first level Agenda Setting focused on the conveyed importance of topics as covered by the media and the corresponding perceived importance of these same topics in the minds of media consumers. Second level Agenda Setting focused on the characteristics associated with the topics covered by the media and the corresponding characteristics of topics as perceived by media consumers. Eight years later, McCombs (2005: 553–554) noted that Agenda Setting studies had widened in scope to include corporate reputation, professional sports, classroom teaching, religious beliefs, and other topics.

Wu and Coleman (2009) compared the influence of news coverage on media consumers’ stated opinions, and found a stronger effect for the second level Agenda Setting than for the first level.

Guo, Vu, and McCombs (2012: 55) proposed a third level of agenda-setting which suggests that “the news media can actually bundle different objects and attributes and make these bundles of elements salient in the public’s mind simultaneously.”

2.5.2 Agenda Setting in the new media environment

McCombs (2005) hypothesized that there are two possible outcomes in the new media environment: 1. the audience becomes very fragmented across a multitude of media channels and thus no longer pays attention to a same message in the way that they used to in a traditional news media environment; and 2. a fragmented audience might end up paying more attention to messages conveyed by the specific media to which they choose to attend.

Consistent with McComb's (2005) predictions, Wicks, Wicks, and Morimoto (2014) found that individuals with specific ideological orientations were selecting media sources and content that were consistent with their political beliefs. Patterns of news consumption during the 2016 U.S. presidential elections also confirm both of McCombs's (2005) hypotheses. U.S. voters were a fragmented audience and were no longer exposed to the same message and were no longer influenced by a homogeneous agenda (see Stelter 2016). This fascinating new media environment will undoubtedly add new components and perhaps even additional levels to Agenda Setting.

2.6 Spiral of Silence Theory

Another perspective on the influence that can stem from news consumption is the Spiral of Silence Theory. The context of the Spiral of Silence Theory is the expression of opinion. It proposes that the fear of being isolated is “an integral part of all processes of public opinion” (Noelle-Neumann 1974: 43). Therefore, if an individual believes that his or her opinion on a certain issue is not shared by a majority of others, the individual will feel reluctant to express that personal opinion. While the preceding falls within the realm of interpersonal communication, the media effect stems from the contention that the news media are a primary source of information for finding out which opinions are shared by a majority. So, the news media play a critical role in producing the Spiral of Silence effect.

2.6.1 Developments in Spiral of Silence Theory over time

Spiral of Silence was developed when television news flourished and concerns began being raised about the influence of TV news coverage of public opinion polls on the behaviors of voters.

The Spiral of Silence Theory was put forward by Noelle-Neumann in (1974) to “substantiate empirically the process of public opinion formation through the individual's observation of his or her social environment” (43). Noelle-Neumann explained the Spiral of Silence process and expectations: An individual observes his/her social environment, evaluates the opinion distributions within it, and assesses the “strength, the urgency, and the chances of success of certain proposals and viewpoints” to determine if he/she would be isolated after expressing his/her specific point of view (44). If an individual is more likely to believe his/her view is or will be dominating, he or she will be more willing to express his/her opinion. In the case that the perceived opinion distribution is different than the actual opinion distribution, “the opinion whose strength is overestimated is displayed more in

public” (45). If an opinion is dominating currently, it’s more likely to be perceived as also dominating in the future. “If there is a divergence in the assessment of the present and future strength of a particular view, it is the expectation of the future position which will determine the extent to which the individual is willing to expose himself” (45).

Audience perception of the climate of opinion is an essential element of the Spiral of Silence Theory.

Salmon and Kline (1983) noted two competing hypotheses that explain why voters might be influenced by information about the prevailing public opinion conveyed by the news media. The first is the “bandwagon theory,” that one may perceive a candidate as a winner and vote to back the winner (18). The other hypothesis is the “underdog effect,” that an individual may be motivated to vote for the candidate who is lagging (19). These perspectives differ from Spiral of Silence in that they are not based on fear of isolation as a motivation for expressing one’s opinion.

The Spiral of Silence effect, as it was originally proposed, has not been consistently supported by the literature. Gonzalez (1988) found that audiences may “refuse to follow the expectations of the communication source” and selectively expose themselves to certain content (35). Lee (1989: 22) found that “the consonance of media content and the influence of mass media upon public opinion” may have a “curvilinear relationship.” Glynn, Hayes, and Shanahan (1997) conducted a meta-analysis of seventeen publications on Spiral of Silence. They found a small but positive and statistically significant relationship between “perceptions of opinion support and willingness to speak out” (Glynn, Hayes & Shanahan 1997: 460). Kim, Han, Shanahan, and Berdayes (2004: 55) found that that “mass media play a role as an information source from which people gauge public opinion,” however, the impact is relatively small.

2.6.2 Relevance of Spiral of Silence Theory in the new media environment

The core assumption of Noelle-Neumann’s Spiral of Silence is a “homogeneous, almost monopolistic, media landscape that projects a consistent opinion climate” and a less active group of audience members who are less likely to engage in selective exposure (Tsfati, Stroud & Chotiner 2014: 15). However, as these authors note, the media consumption context has changed. Individuals have also “adjusted their exposure habits to this changing landscape by using ideologically congruent media” (15). They may perceive their own opinions to be dominant given that they selected to be exposed to sources that are consistent with their opinions. As a result, Tsfari, Stroud, and Chotiner (2014: 17) propose that “the spiral-of-silence in its original form could be replaced by a reinforcing spiral process in which partisans become more polarized as a result of selective exposure.”

2.7 Media Dependency Theory

The core argument of the Dependency Model of Mass Media Effects (also known as Mass Media Dependency, Media System Dependency, or Dependency Theory) is that finding a strong media impact on individuals is conditional on the level of these individuals' dependency on the media. It proposes that the more dependent individuals are on a medium of information, the more likely it is that researchers will find that this medium has a strong influence on these individuals.

2.7.1 Developments in Media Dependency Theory over time

Media Dependency Theory was developed when existing media effect theories fell short of explaining the variation in the audience's beliefs, attitudes, and behaviors. Ball-Rokeach and DeFleur (1976) laid out the complexities involved in achieving a strong media impact. These complexities combined institutional, societal, and individual-level factors and illustrated the unique conditions under which a strong media impact can be achieved. In essence, Media Dependency Theory was the first theory to try to offer an integrated approach to the study of media effects (see DeFleur & Ball-Rokeach 1989).

Dependency on media increases the likelihood for media messages to “achieve a broad range of cognitive, affective, and behavioral effects” (Ball-Rokeach & DeFleur 1976: 7). The cognitive effects include creating and resolving ambiguity, forming attitudes, setting agendas, expanding audience's belief systems, and clarifying values (9). The affective effects include “fear, anxiety, and trigger-happiness,” and “morale and alienation” (15). The behavioral effects include “activation and de-activation” (16). Activation refers to doing something that would not have been done if a certain media messages was not received, and de-activation refers to not doing what would have been done had a specific media message not been received.

Ten years later, Ball-Rokeach (1985) added interpersonal social networks as yet another component that needs to be taken into account in order to understand media influence within the context of media dependency.

2.7.2 Relevance of Media Dependency Theory in the new media environment

Media Dependency Theory emerged at a time when researchers were seeking explanations for the lack of strong media effects predicted to stem from exposure to the mass media. Media Dependency serves an important role in laying out the complexities involved in achieving a strong media impact. These complexities combine macro and micro level factors to illustrate the unique conditions under which a strong media impact can be achieved.

In the new media environment, the notion of a mass medium has progressively faded. However, the concept of “dependency” remains and is perhaps even more important today than it was during the age of mass media. The proliferation and quick widespread adoption of individual information devices brings a new meaning to the concept of media dependency. The dependency on the Internet has been recognized as a kind of addiction and clinical disorder that may affect a person’s psychological health (Young 1998). A study conducted in Japan found that Internet dependency is a health issue and can induce depression among users (Lu et al. 2011). Smartphones have also become an essential part of people’s daily lives. Suki and Suki (2013: 49) found that “social needs, social influences, and convenience of smartphones” can affect people’s dependency on smartphones. According to a 2016 Deloitte study, “people have never been more addicted to their smartphones” (Dizik 2017). The same study found that users of information devices feel anxious and want to log back on when pulled away from social media.

In the new media environment, the notion of Media Dependency has acquired an expanded meaning. Fragmented information consumers are not only dependent on traditional and new information sources that they access through smart-devices, but they are also highly dependent on the devices themselves and on being connected to the information networks that allows them to be consumers as well as producers of information. Furthermore, media consumers are no longer solely seeking exposure to information produced by media institutions. The rise of social networking and user-produced content networks has blurred the dividing lines between institutionalized and interpersonal information and media consumers are likely to be dependent on both information types.

3 Integrating across media effects theories

When tracing the development and evolution of seven classical media effect theories, several patterns stand out:

1. Media effect theories attempt to explain the influence of predispositions (uses, gratifications, and other conditions that trigger information selection) on exposure to mediated messages and the influence of exposure to interpersonal and mediated messages on the beliefs (subjective knowledge, interpretation, objective knowledge, cognition, etc.), attitudes (affect toward object, candidate or other entity), and behaviors (actions undertaken by individuals) of those who are exposed to these messages.
2. Media effect theories evolved along parallel tracks but for the most part theorists seem unfamiliar with the work of others who are focusing on the same issues. As such, theorists do not tend to integrate their work with the work of others. This is consistent with observations made by DeFleur (1998) and Entman (1993).

3. Each theorist begins with a simplistic explanation involving media exposure and a specific effect or predisposition with which this theorist is associated. Over time, theorists acknowledge that their initial thoughts about the relationship they set out to investigate were insufficient to explain the outcome stemming from or leading to media exposure. They progressively add new factors to their theoretical frameworks. Over time the components of many of the theories begin overlapping. Even so, theorists rarely acknowledge the similarity of their work with that of other theorists even within a same research domain.
4. Media effect theorists, for the most part, not only tend to ignore one another's work but, except for Media Dependency and Two-Step Flow, also tend to ignore non-media-centered factors. These additional factors can potentially either interact with media-centered factors or complement the influence of media-centered factors and provide a more complete explanation of the motivation leading to, or outcome stemming from, exposure to mediated messages.

After almost 100 years of theorizing about the effects of communication media, it is very clear that each media effects theory, on its own, does not provide a complete picture of the outcomes stemming from the exposure to media content or motivations for consuming such content. To provide a more complete picture, these theories must be integrated with one another and perhaps even be integrated with related theories from such fields as psychology and marketing. This is so since the variables involved in the processes of media effects are numerous and, as the historical evolution of these media effects theories has shown, a theoretical framework that involves only a few factors is insufficient to explain the outcomes that stem from media effect exposure and usage.

4 The need for an integrated approach

The idea of theoretical integration is certainly not new (see Entman 1993). To integrate, as defined in this chapter, is to assemble and combine relationships across media effect and related theories to arrive at a more complete representation of a process model of media influence. What could the first step toward an integrated theory be?

The first step is to identify the outcome variables. In this case, key outcome variables across all seven media effect theories fall under media exposure, beliefs, attitudes, and behaviors (see Elasmr 2008, chapter 2, for definitions of beliefs and attitudes). Once the outcome variables are identified, instead of reinventing the wheel, the next step is to determine whether there is an existing theoretical framework that deals with these outcome variables and that can be built upon. The Theory of Planned Behavior (TPB) (Ajzen 1985), in part, focuses on the interrelationships between

beliefs, attitudes, and behaviors. Although not a traditional communication theory, it nevertheless provides us with a solid base to begin the integration of media effect theories. As a starting point, we can certainly adopt the structure of interrelationships that it specifies among three key outcome variables. TPB has been tested in thousands of investigations and the structure that it specifies among beliefs, attitudes, and behaviors has been found to be very stable over time. With respect to these three variables, TPB generally specifies that beliefs about topic A drive attitude about topic A, which in turn drives behavioral intentions related to topic A and, in turn, drive the actual behaviors related to topic A.

The first component of an integrated media effects theory is a four-variable sequence beginning with beliefs and ending with behaviors. Media exposure is a core variable of all media effect theories. It is an outcome variable for Uses and Gratifications and Selective Exposure and the main predictor for all others. Exposure to mediated messages can then be added as an immediate antecedent of the “beliefs” component of the model. The Two-Step Flow Theory contends that the influence of media exposure might be mitigated by interpersonal influence. As a result, interpersonal messages can be added as a competing predictor onto beliefs. Selective Exposure and Uses and Gratifications propose that media exposure will be a function of specific motivations and individual differences. As a result, these two components can be added to the model as antecedents of media exposure. Media Dependency Theory tells us that none of these relationships can occur in a vacuum as they are a function of the social and cultural environment in which the audience members/media users exist. We can thus add social and cultural environment variables as antecedents of the entire process.

A starting point Integrated Process Model of Media Effects emerges and is presented in Figure 1. It is important to note that each building block in the model consists of a variable category and each category can accommodate dozens of specific variables. The objective of proposing this starting point process model is that it is hoped that it would encourage the new generation of media effects scholar to take a more comprehensive approach to the study of media influence and, as such, overcome the limitations that characterize the approach taken by earlier scholars.

5 Conclusion

A look back at seven classical media effects theories reveals that scholars have been, for almost 100 years, debating, surmising, theorizing, and paying close attention to the motivations that drive individuals to consume mediated messages and to the outcomes that stem from such consumption. Most of the theories have evolved over the years by progressively incorporating additional components to improve their explanations. Over time, many of these theories began overlapping, though

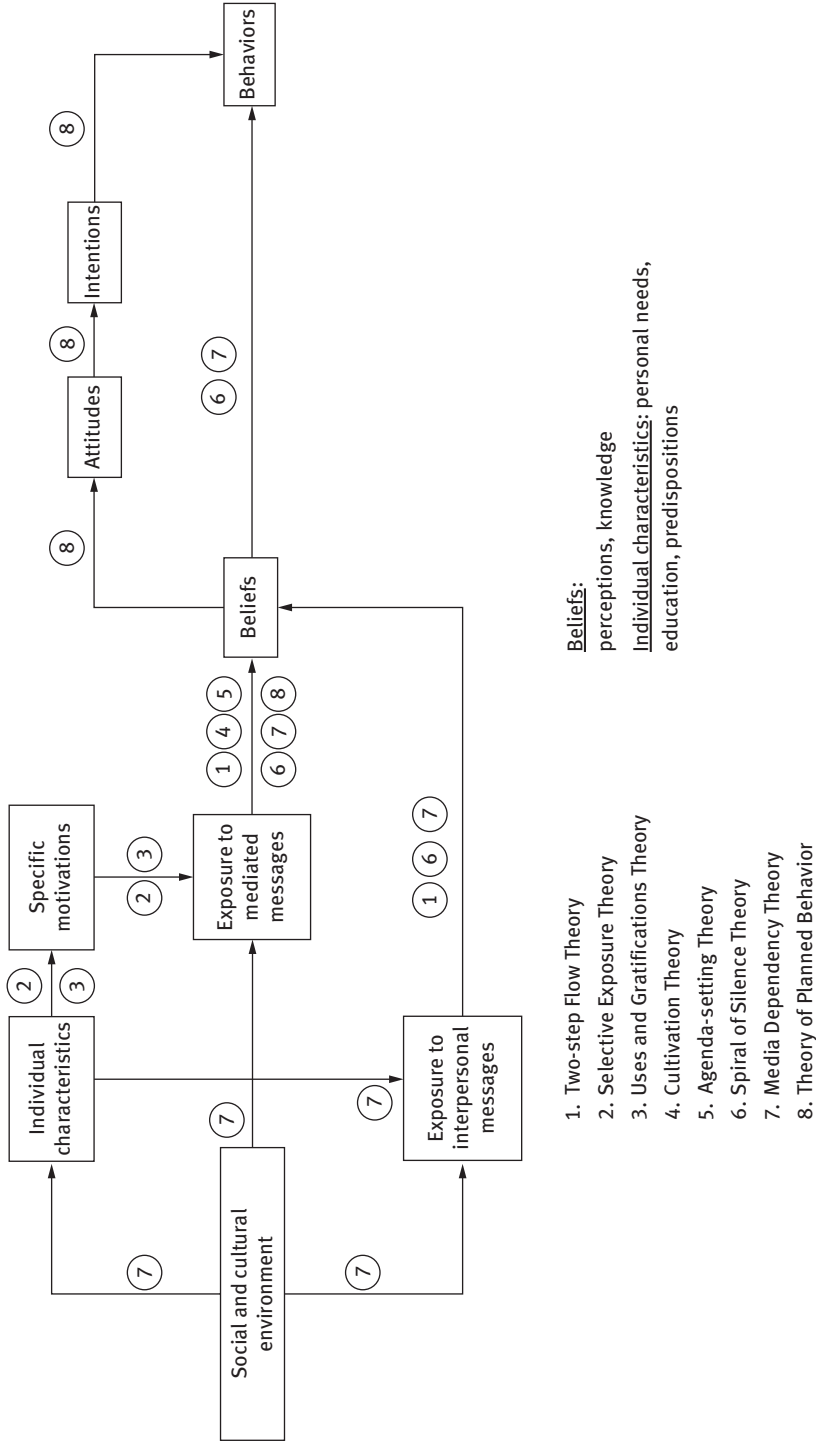


Figure 1: An Integrated Process Model of Media Effects (IPMEE).

scholars, for the most part, do not typically acknowledge such overlap. In (1998), DeFleur asked why there have not been any new milestones in media effects research. He noted the lack of an integrated theoretical effort as one key reason. A review of the evolution of seven classical media effect theories confirms the absence of integration across theories within the media effects research domain, and the absence of integration of relevant theoretical frameworks from other related disciplines. The scholars who laid the foundations for our field realized early on that research conducted about communication would need to be interdisciplinary as “...every cultural pattern and every single act of social behavior involve communication in either an explicit or implicit sense” (Sapir 1931: 35 as quoted by Schramm 1974: 5). We have come a long way methodologically and analytically since the 1930s, but even the most advanced predictive modeling techniques cannot overcome the limitations of having very narrowly focused theoretical models that do not sufficiently illustrate the complexities of the processes involved in media effects. This chapter offers a starting point Integrated Process Model of Media Effects (IPMEE) that combines across the seven theories reviewed. I propose this model to be criticized, tested, altered, modified, and expanded by the next generation of media effects scholars, who will hopefully be encouraged to adopt a broader approach to the study of media effects.

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4 Media Usage

Abstract: This chapter is about how and why audiences make choices in medium and content through various platforms. Media use is a concept that has been developed over decades spanning from theories of passive reception to active creation. By examining the history of theories of media use and examining the elements of use within the context of a digitalized media environment, we can better understand the changing patterns and habits of media users in the digital age. Following a review of uses and gratifications theory and media dependency theory, the chapter lays out the elements of media use; access and exposure, interaction with the media, and sensemaking of messages. As an alternative to media use, ‘media activity’ is suggested as a new framework to examine media use in the digital age, where the term activity captures the broad range of what audiences do online, including content consumption, information seeking, communication, creating content, and engaging in transactional activities.

Keywords: media use, media content, uses and gratification, media dependency theory, media activity

1 Introduction: Why reconsider the concept of “use” now?

This chapter is about how and why audiences make choices in medium and content through various platforms. When we say “media use,” it is assumed that audiences are active participants in their media consumption. In this chapter, although both media and content are examined, the focus is on uses of content. Media in relation to technology are dealt with in more detail in the next chapter “Media Technology Adoption,” where theories to enhance our understanding of how and why media users adopt or do not adopt new media technologies are introduced.

In the pre-internet era, media were merely conduits that linked the audience to content consumption. The medium that enables the consumption was often not the main concern of media scholars, given that the medium and content were closely tied to each other. Television shows were viewed on TV sets, news were read on newspapers. By using the term “use,” it was assumed that people already had access to the medium and therefore consuming the content. With the introduction of digital technologies, the same content can be delivered through many different media, diversifying how people get access to the content.

Media use is a concept that has been developed over decades spanning from theories of passive reception to active creation. In comparison, access and exposure to media which precede use, have been understudied. Recently, non-uses of media have

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started to get attention with the penetration of the internet, where some people have access and some people do not, which raises the issue of access and exposure. By examining the history of theories of media use and examining the elements of use within the context of a digitalized media environment, we can better understand the changing patterns and habits of media users in the digital age.

Use implies that there is something more than simply the consumption of messages people are exposed to. Media users utilise the medium (device) to get access to the message (content), and these media technologies are designed to enable and enhance the users' experience. For example, smart TVs are designed to help consumers seamlessly access television programs with meta-information about the program. This can improve the viewer experience by providing tools that help choose the optimal content from the offerings. However, these tools require digital skills and increasingly, the media user needs to know the complex functions of devices to get access. Device literacy comes into play before the consumption, but also during and after the experience. The skills and knowledge to navigate the medium or platform determine the quality of the usage.

Before the mass media era, audiences or readers of mediated messages were largely an elite group of literates and educated people who could appreciate orations, books, and art. These elite groups were mostly critiques of art and culture, which requires active involvement. However, this changed with mass media, where anyone can easily understand messages through passive consumption. Advertising incentives led television programs to appeal to the common denominator, where minimal involvement is required on the part of the viewer. Scholarly tension existed between those perceiving audiences as active versus passive. Cultural studies scholars argued that resisting views existed and audiences were actively engaged with messages during their seemingly passive media consumption.

With the introduction of multichannel video services, customised on-demand video services, and the enormous volume of media content to choose from in the digital age, a revived active user paradigm replaced the passive audience paradigm. However, most of the pre-internet research focuses on how audiences (or users) respond to media messages, whether they are influenced or not, and how much of an impact the messages have on users. The device or the medium itself was not considered an important element of use until the introduction of remote control devices for multichannel television viewing. The ability to switch channels with a flick of a button changed the whole television viewing experience. With computers and phones in the digital era, device usage is now a critical element of user experience. Lack of digital literacy can be a significant barrier to optimal or desired uses. Searching, filtering, locating information and content have become crucial skills that define how users access and consume media content. Active use of media is no longer a choice nor a scholarly debate but a reality in the digital era.

Here, we need to differentiate the medium and the message. The media that deliver the content have become more complex in their functions. Users now have

multiple devices through which they can access the same content, delivered through different networks. If we compare traditional terrestrial broadcasting television, where TV viewers receive several local channels and in addition have a subscription TV such as cable or satellite services, to the current environment where a viewer can have both of those traditional platforms but a multitude of other services such as Netflix, Apple TV, and streaming services on the internet, the number of choices has increased significantly. The experience of viewing the television show, the content, has also changed dramatically. Viewers can watch shows on various screens varying from a tiny handheld screen to a home theatre screen. Many devices now allow pausing, fast forwarding, and recording, allowing for non-linear viewing. Catch-up TV has enabled viewers to manage their viewing time. These changes in technology have changed the media users' experience, and are altering the theories that explain new social phenomena.

2 From mass media consumption to digital media use: Historical overview

Theories of media use have been evolved mainly from the perspective of active audiences. Audiences are in a media environment where they can select from a diverse array of media and content options from which they choose primarily based on their needs and preferences. The individual's intention is important in explaining the differences in consumption patterns and behaviour. This section provides a brief introduction of uses and gratification theory and media dependency theory, which are the core theories of media use that were developed since the mass media era.

2.1 Uses and gratification theory

Earlier influence from social psychology on perception, attitude, and behaviour shaped how communication scholars explained audiences behavior. Individuals respond differently to the same environment (message) according to their interests and needs. The consumption of media messages fulfils a purpose of gratifying the needs of the consumer (Ball-Rokeach 1998). This is a shift from the initial models of media effects, where audiences were assumed to be a receptive mass that uniformly responds to messages. The concept of user – even though the word is not used until much later – originates from the differences amongst audiences, the selectivity of exposure, and its empowering effects. Selective exposure, perception, and retention serve as buffers against direct and uniform media influence (Klapper 1960).

The uses and gratifications approach provides a good frame to examine media use from the perspective of the user. The two main elements of uses and gratification theory are motivation and activity (Rubin 2009). The basic assumption is that media audiences are active and they purposively select media content, which is influenced by motivation and previous gratification experiences or anticipated gratifications. Rather than passively consuming what is presented before them, audiences choose to actively use the mediated content with a purpose.

There are several assumptions of uses and gratifications theory: communication behaviour is purposeful and driven by motivation, audiences are active participants in selecting and consuming media content, and social and environmental factors influence an individual's media choice. Media are in competition with other media that share functional similarities, and people choose amongst a variety of media options. Palmgreen (1984) categorized the existing theory of uses and gratifications into six areas: (1) gratifications and media consumption; (2) social and psychological origins of gratifications; (3) gratifications and media effects; (4) gratifications sought and obtained; (5) expectancy-value approaches to uses and gratifications; and (6) audience activity. Among these many dimensions of uses and gratifications theory, motivation, audience activity, and involvement are the most important elements in understanding media use. Audience activity refers to the utility, intentionality, selectivity, and involvement of the audience with the media (Rubin 1993). Involvement is the process of audiences attending to and connecting to salient media messages (Rubin & Perse 1987). This is both cognitive and emotional participation, where audiences receive and process messages.

Measuring the motivation or intent of media use has been an important component of the uses and gratifications research tradition. There are criticisms about how well the respondents can accurately answer their motives through survey questions. Even with these limits and the constraints of cross-sectional studies, Palmgreen (1984) concludes that media consumption is motivated by the user's gratifications that are related to the consumption experience. Here, a user's motives are multiple. The question then becomes, how are media consumers motivated? Most uses and gratifications research emphasize the social origin of individual user's motivation. Blumler (1979) suggested three social motivations of media use: (1) normative influences, which give rise to certain requirements or expectations based on sex, life-cycle position, social roles, and so on; (2) socially distributed life chances, consisting of factors that facilitate a richer involvement with media content (for example, organisational affiliations, frequency of social contact) or that are sources of a "need to compensate" for the lack of various social opportunities (for example, lack of friends, telephone, or opportunities for leisure); and (3) the subjective reaction or adjustment of the individual to his or her social situation (for example, job or role satisfaction).

Both motivation and involvement are variable when communicating. People are not always fully engaged or motivated, even though they are more or less capable of doing so. Variability in these two dimensions is central to understanding

communication orientations (Rubin 2009). Hearn's (1989) field experiment shows how audiences select TV programs when they have limited choices. He distinguished content-oriented viewing versus medium-oriented viewing and found that even when given limited choices, viewers tend to choose the content they prefer rather than opting to habitual medium usage. When applying this to a digital environment where consumers have high freedom of choice in both content and media, it is likely that people will be selective in content choice but also intentionally choose the optimal media at hand.

Table 1: Viewing types defined by viewing orientation and experienced freedom.

	Content oriented	Medium oriented
High freedom	Selective content usage	Intentional medium usage
Low freedom	Habitual content usage	Habitual medium usage

Source: Hearn (1989: 870)

Media use can be described as ritualized or instrumental in nature (Rubin 1983), depending on whether the audience member is media- or content-oriented. Ritualized media use is habitual and for diversion. Instrumental orientation is seeking content for purposes, such as seeking information. The latter is more active and suggests greater audience utility, intention, selectivity, and involvement. The notion of active audiences is based on the assumption that selectivity, intentionality, and involvement are the basic ingredients of audience behaviour when consuming content (Levy & Windahl 1985). These elements are likely to be more important in the digital environment, where content is accessed through multiple devices and platforms, allowing the user more choices.

2.2 Media dependency theory

Media dependency theory was developed as early as the 1970s and was conceptually elaborated in the 1980s. The dichotomy between powerful media and weak audiences, and weak media, powerful audiences that historically dominated the communication discourse in the twentieth century is a response to the question “how and how much do media effect people?” Rather than trying to answer this question, media dependency theory examines the conditions under which media do or do not have powerful effects. Ball-Rokeach and Defleur (1976) looked at media as an information system. Here, the focus is on the relationship between producers and consumers of information. In the era of mass media, producers control scarce information resources and consumers make use and sense of these resources. Instead of emphasising a linear relationship between media and audiences, Ball-Rokeach and Jung (2009) propose

a model that examines the conditions under which media have effects. Media is an information system where producers control scarce information resources and consumers utilise those resources to make sense of the meaning within their social and personal context. Originating from power-dependency theory, media system dependency theory rests on the assumption of imbalance in power.

This approach allows researchers to examine the full range of information, including entertainment and news genres together. The consumers are regarded as active processors of media resources rather than passive receptors. These assumptions are the foundation of the ecological notion of a dependency relationship (Ball-Rokeach & Jung 2009). Media system dependency theory is rooted in the assumption that the media and media users are part of a broader social system, whereby people interact or communicate with the media content to achieve certain goals, and that there are varied degrees of doing so. Individuals have dependency relations with media based on the perceived utility of media in meeting personal goals. A media dependency relationship is where “the satisfaction of needs or the attainment of goals by individuals is contingent upon the resources of the other party” (Ball-Rokeach & DeFleur 1976: 6). There are a variety of goals that people seek to be met by media. People need to understand the world (understanding goals), need to interact effectively with others (orientation goals), and have a need for entertainment or escapism (Morton & Duck 2000).

Ball-Rokeach (1998) explains the difference between uses and gratifications approach and media dependency theory. The latter is based on the theory of power, power-dependency theory, and looks at all levels of micro, mesa, and macro systems in the media environment. Uses and gratifications focus more on the individual, based on social psychology theories.

Media effects is an outcome of dependency situations where consumers require access to information resources controlled by the media system to achieve their everyday goals, whereas the media system does not really require access to resources controlled by any one consumer to achieve its economic and political goals. With the proliferation of new media systems, media dependency theory was expanded to communication infrastructure theory. Communication infrastructure theory shifts the focus from media to a broader communication system, viewing media effects within a larger frame of communication agents (Ball-Rokeach & Jung 2009). Media dependency has become a prominent issue in the age of digital and mobile media; however, the concept is not used as pervasively as it was used in the mass media era.

3 Elements of media use

With changes in the media environment, the notion of use evolved accordingly. In understanding the changes that occurred in various aspects of use, it is useful to conceptually differentiate the stages that are involved in media use. For use to occur,

first, audiences must have access to the medium and be exposed to the content. Then the audience goes through a cognitive process to absorb, understand, and make sense of the message. This can happen conjointly with other activities or with other audiences. Following the use, the user can utilise the message via various methods such as storing, sharing, recording, and linking it to other cognitive and behavioural processes. These activities happen within the context of media systems and broader social contexts. According to Potter (2009), three important themes in audience research are exposure, audience activeness, and locus of meaning. The elements that are involved in the process that are directly related to media use are access and exposure, interaction with media and content, and making sense of the interaction. These three aspects are discussed in the following sections.

3.1 Access and exposure

Among Potter's (2009) three themes in audience research, exposure is least studied but has become one of the more important ones in the digital age. In the digital environment, exposure to media and content is diversified and complex. Exposure to mass media (as opposed to "access" to digital media) is not well addressed in the media studies literature because it has been regarded as a given. Some scholars regard exposure as the user's attention to the message and others argue that unconscious or inattentive media exposure is also possible. Exposure has become a more complex process in a multiplatform, ubiquitous media environment. A range of intentional and unintentional exposure has been made possible by new technologies.

Potter's (2009) media exposure model provides a good frame to think about conflicting ideas of audiences, messages, and sense-making. He categorises exposure into attentional, automatic, transported, and self-reflexive states, depending on the level of concentration when consuming messages. Each state has a different qualitative component that distinguishes one experience from another. Attentional exposure occurs when people are aware of the messages and actively interacting with the elements. Automatic state refers to the state where the audience member processes the message in an unconscious manner. Activities such as flipping through a magazine or clicking through TV channels are examples. Habitual and routine media consumption falls under this category. Transported state is a deeply engaged state with the message where the audience member is emotionally and cognitively involved, similar to Csikszentmihalyi's (1990) concept of flow. The self-reflexive state is when people are aware of how they are processing the message, monitoring their own reactions to the message. This is the fullest degree of awareness and the audiences exercise control over their perceptions.

All these states share the same sequence of information processing tasks of the individual. When faced with exposure choices, people must decide what messages to filter. Then they need to assess the meaning by matching and construction. Meaning

Table 2: Exposure and information-processing model.

Exposure state	Information processing task		
	Filtering	Meaning matching	Meaning construction
Automatic	Screening	Highly automatic	Highly automatic construction
Attentional	Scanning	Automatic	Typical construction
Transported	Swept	Personal & highly automatic	Highly emotional construction
Self-reflexive	Searching actively	Personal & highly conscious	Highly personalized construction

Source: Potter (2009: 30)

matching task occurs when the audience member understands the denoted meaning of the message. This is similar to Hall's (1980) idea of closed codes. On the other hand, meaning construction process is responding to open codes and selecting from many potential meanings. The two processes are not mutually exclusive and often happen simultaneously.

Webster and Wakshlag (1985) introduced three ways of defining exposure in the context of television viewing. First, exposure can be defined as an act of choice, in which the viewer selects from a range of messages or media. This doesn't account for the attentiveness or the process of engaging with the messages. The second way of looking at exposure is to gauge how much attention is paid while engaging in viewing activity. This type of definition can answer questions pertaining to media effects, where the audiences' perception of content results from how engaged they are during the process. The third type of exposure occurs by preference for programs. A viewer selects content based on the characteristics of and preference for the content. Exposure is closely linked to the activity of the audience while engaging in media consumption.

According to Webster and Phalen (1997), exposure to media can be explained by audience factors and media factors. In both aspects, to understand audience behaviour, structural influences must be considered as well as the individual factors. For example, structural factors such as potential audiences and patterns of availability are audience factors that shape exposure. People's needs, awareness, and preferences are individual factors. Structural media factors include media coverage and content options. Individual media factors are type of subscriptions and technologies that are available. A complex system of availability, services, content, tastes, expectations, and habits form how audiences are exposed to media content. In an age of on-demand media, structural factors matter less since availability is increasingly being expanded.

Access is a slightly different aspect and is a precondition of exposure, which in the mass media era was framed as the ability to be able to express and communicate publicly via media. However, in the digital age, access to media has become more complex. Due to multiple technologies that allow access to the same content, it has become an issue of whether the user can afford access and is skilled enough to use the medium.

3.2 Interaction with the media

Audience activeness has been extensively studied throughout the history of media studies and we can conclude that both passive and active audiences co-exist within the individual as well as within contexts. However, the degree of audiences' activeness is an ongoing debate. Uses and gratifications research is based on the assumption of "active" audiences. Active audiences are voluntaristic and selective in their interaction with media. Levy & Windahl (1984) conceive of a typology of audience activity constructed from two dimensions. The first dimension, audience orientation, is qualitative in nature and consists of three levels: selectivity, involvement, and use. The temporal dimension is divided into before, during, and after media exposure. These three types they term "preactivity" (in this study, defined as consciously planning to watch television news), "duractivity" (defined in a negative sense as engaging in distracting behaviours while viewing), and "postactivity" (thinking about the news and discussing it with others). Cross-tabulating the qualitative orientations and time results in nine categories of audience activities. From these prototypes, they elaborated on three types of audience activities: selective exposure seeking, decoding and interpreting, and social utilities. Measures of gratifications sought and obtained were related consistently and positively to all three measures of activity. That is, the more audience members were motivated in their use of television news and the more they perceived various types of gratification, the more active they were in their television news consumption. This is consistent with theoretical expectations. Their study indicates that there is considerable variance among viewers in the activity and that activeness is associated with uses and gratifications of media.

Interactivity started to receive attention when multichannel services such as cable television became popular. Remote controls to flick channels were the first type of tool that enabled interactive TV viewing experience. Ha and Chan-Olmsted (2004) use the concept of enhanced television features to describe the use of internet features to improve the TV viewing experience. Biocca (1992) redefined the activity concept using subconcepts of selectivity, utilitarianism, intentionality, resistance to influence, and involvement.

3.3 Sensemaking of messages

The locus of meaning – whether it resides with the messages or constructed by audiences – can be understood as being dynamic. There are intended meanings by message creators, but how they are interpreted is up to the audiences. Whether meaning resides with the text or is constructed by the audience continues to be debated. Audiences come with a variety of cultural and social experiences that shape how they interpret the messages. The messages also are multilayered, with potential

to be consumed differently. Audience research in the mass media era sets up a good frame to explain the complexity of digital media use. The range of audience activities during media use has been expanded considerably in the digital environment, therefore necessitating a shift in the concept of audiences.

There is a long tradition in media history of recognizing the audiences' active engagement with content (Ang 1991; Moores 1990). Recipients of cultural content – whether fiction, music, film, or television – have always engaged in activities, such as bands playing cover versions of songs or fan clubs stimulating the recreation of content (Jenkins 1992). The implied opposition between passive recipients defined by old media (e.g. television) and active participants inhabiting digital environments is a historical fallacy (van Dijck 2009).

Active audience reading of media content in the TV context is well explained by Fiske (1987). A code is a rule-governed system of signs, whose rules and conventions are shared amongst members of a culture, which is used to generate and circulate meanings in and for that culture (Fiske 1987: 4). With codes, people share their “reality” in an encoded form, assumed to be shared amongst the parties involved in the communication. For broadcasters that attempt to send messages to their audiences, this is a simple and efficient way of delivering their content. The media broadly defines the social codes – the way messages are depicted and delivered. Television has a certain way of encoding and newspapers have their own way of encoding, etc. The camerawork, angle, lighting, all contribute to the ways in which messages are encoded and delivered.

Fiske differentiates audience, audiences, viewer, and reader. Audience implies that the consumers of television content are homogenous and passive. The plural “audiences” recognizes that there are differences between the viewers of any one program and that these differences must be taken into account. Both “viewer” and “reader” are more active than either audience or audiences. A viewer is someone watching television, making meaning and pleasures from it, in a social situation. Situating social situation within the viewing brings to television the social relations of the viewer. He prefers the term “reader.” Viewing is specific to television. Reading is common to all texts. Reader means the producer of texts, i.e., the maker of meanings. This productive ability is the result of social experience or training and is not an innate nature. Although he does not use the term genre capital, what he is implying is that competencies to “read” text are acquired skills.

TV shows now proliferates online and are viewed by audiences in many different media and platforms, such as computers and mobile phones. They are often viewed on television screens but are also increasingly viewed on personalised devices such as smartphones and tablets. Furthermore the genre has diversified and there is various video content similar to TV shows but are not limited to the traditional form and style. Fiske's concept of active reading of TV content can be expanded in the multi-platform environment. Not only the active reading of the text (content) but also the active searching and selection of the content comprise a significant part of viewing. Not only

has the interpretation of the content different according to the viewer, but the context in which the viewer chooses to watch the show diversified.

4 Reconceptualizing media use in a multiplatform media environment

The early mass media theories such as powerful propaganda model, limited effects model, and two-step flow model are based on the assumption that media audiences, while differing in the degree and ways of being influenced, are inherently passive receivers of messages. In the 1960s, scholars began to realize audiences selectively exposed themselves to messages, filtering out information and actively being involved in the consumption process. Uses and gratifications theory suggests that audiences make a conscious decision in selecting and consuming messages based on their needs and interests (Katz, Blumler & Gurevitch 1973; 1974). Not only are the audiences diverse in reading and interpreting messages, the text itself is polysemic (Hall 1980; Fiske 1987; Morley 1980).

Applying the concept of use was a significant step towards recognising the active audience involvement in constructing messages. Media use has been an important concept in the context of audience engagement, satisfaction, and motivation. From this perspective, scholars have been mainly interested in why people consume media and what their experiences mean to them. One of the major shifts in the digital age within the media systems is the separation of content from the medium. With the proliferation of multiple media platforms, the content can be delivered in many ways. Now, media platforms are in competition with each other, not with substitutable content, but with the exact same content. Content can be accessed through different media, providing the same experience. Another change in media due to the internet is that digital media are conduits of a range of different content and communicative functions. Users now can consume content from devices such as smart TVs or mobile phones, while simultaneously searching for information, talking to other people, and buying something online. Internet use is a very different experience from media use. Internet use is not a homogenous or isolated activity but is often in the context of other dimensions of life, such as information seeking, socialising, working, shopping, as well as traditional TV viewing and consuming media content. Media multitasking is more prevalent than ever before, especially among youth, and the trend is growing. The average amount of time that children aged 8 to 18 report media multitasking increased from 16% in 1999 to 29% in 2009 (Rideout, Foehrer & Roberts, 2010). Carrier et al. (2009) compared the Baby Boomers, X Generation, and Net Generation in their multitasking behaviour and found that the youngest generation exercised a greater amount of multitasking. This is beyond the scope of this chapter. However, there are dramatic changes that are occurring in media use due to the internet. The

third shift is in the way people interact with media content. Viewers' motivation for accessing online video content is known to be somewhat different from traditional TV viewing (Bondad-Brown et al. 2012). It is often argued that the rise of online video use has created a shift from a passive viewing audience to an active audience that not only consumes but produces content (Jenkins 2006; Shirky 2008).

How has the internet and digital technologies contributed to these changes? First, with digital media, the user can utilize various sources to find optimal content by searching and reading reviews. Internet users share their views online, which can be another source of tailored information. Content providers and advertisers use customer data to make recommendations. These added activities improve the user's content selection experience. The second change in the context of media use is that now audiences need a variety of technological skills – digital literacy – to be able to effectively access and engage with content. Media messages are becoming separated from the media. In digital form, the content can be delivered and consumed on any digital devices. The method of getting access to the content is not uniform anymore. Knowing how to access the same content through different devices and platforms is a skill required in the digital environment.

Television viewers are increasingly accessing content through the internet on computers, mobile phones, tablets, and other devices. Audiences can engage in sharing the content. They can also access the content in different locations on different devices. The traditional uses of the term “media use” implied that the medium and the message were uniquely attached to each other – television program to TV sets, news stories to newspapers and so on. There was no need to differentiate the medium from the content. However, in the age of digital media, a new perspective on the uses of the medium versus usage of the content is necessary to understand the complexity of the media systems. Media scholars in the tradition of media uses and audience studies have traditionally studied the consumption of messages. Therefore, it would be logical to focus on the content side of consumption rather than examining how “media” evolved over time and how consumption takes place within each medium. The evolution of media and technology is another significant topic of investigation.

In the pre-internet era, the distinction between content and media was not clear-cut. When new media technologies were introduced, there were debates about replacement of old medium by the new medium. This usually entailed the replacement of platform or device rather than the content. For example, many studies have investigated whether a new medium displaces or complements existing media, with mixed findings (Grotta & Newsom 1982; Henke & Donohue 1989; Dimmick, Chen & Li 2004; Lee, Tan & Hameed 2005; Leung & Wei 1999; Newell, Pilotta & Thomas 2008). When we focus on the content aspect, the trend can be understood quite differently. Online activities are often categorised into information, entertainment, transactional, and communication dimensions. There are other ways of distinguishing various online activities, such as informational, interactional, and creative (Ekström & Östman 2015). Among the variety of activities that are afforded by the internet,

information and entertainment uses, while broader in scope, are the closest to the traditional sense of media consumption.

The changes can be understood within the temporal and spatial dimensions. Audiences have more choices in the time and space when and where they use media content. Increasingly, content consumption is becoming embedded seamlessly into a person's daily life, accessing content throughout the day. This is in contrast to the days when radio and TV audiences gathered around the media with family members in a certain location in the house, at a certain time, to listen or view regularly scheduled shows. The living room scene has changed to family members each consuming different media content, even when they are in the same location, at the same time. This shift implies a considerable activeness on the part of the user. The user, encountered with many choices, must find, select, and decide on the content.

While it is true that the ways in which people access content have changed dramatically, there are elements of media use that remain constant. Mass media have a unique business model that involves a triadic relationship between media content producers, media consumers, and sponsors (advertisers). The economics of media content as public goods drive this free model when direct payment for a product or service is inefficient or difficult to implement. While paid subscription, in part, works in the digital environment, this will never fully replace the ad-supported model of media. Therefore, media use will always entail some provision of the user's information and attention, so that the exposure will be of value to advertisers.

5 Media activity: New framework to examine media use in the digital age

Media uses and media functions are not the same. The societal function of media may not be aligned with an individual's use of it, and there is therefore a need to differentiate the unit of analysis when studying media uses from the social function of media (Baran & Davis 2011). This holds true even more so in an age where media choices are abundant and media users navigate various platforms to fulfil their needs. The concept of use may be better reflected in the term "activity" in the age of the internet. Online activities capture the broad range of what audiences do online, including content consumption, information seeking, communication, creating content, and engaging in transactional activities. What people actually do with the media (internet) is often described as activity. Among the many activities, content consumption comprises a significant part. It is also tied to other activities such as liking, sharing, and interacting with the content. Concepts such as participation, content creation, and user-generated content are used more frequently to describe how people "use" the internet. Due to the various functions that are available online, motivation to use as well as the capability to fulfil user goals are varied.

As services migrate online, online activities are becoming increasingly important to a person's daily life, and much of the personal and social aspects of internet use are conducted online. Activity is now expanding to the act of participation. What implications does this have on media uses? If we examine the consumption behaviour online, there are new elements that have been added to the traditional sense of media use. We can conceptually divide media use into access, exposure, interaction, and post-consumption activities. Each of these stages renders difference experiences in a digital environment. First, access to media has become diversified. There are many different devices and platforms the media user can get access to. Smart devices are constantly updated to accommodate the diverse needs of users within one device. Devices can talk to each other so that users have seamless access. These technological developments require the user to be equipped with digital literacy, often creating a barrier to media use. The functions within the tools may or may not deliver the content that the user is seeking. The second stage is exposure to content. Exposure has become much more complex in the digital environment. Algorithms are designed to adequately serve the needs of the user. However, these systems are designed to better inform advertisers who wish to reach targeted audiences. Without knowing the media, users can encounter unintended content. The boundaries of the third and fourth stages have blurred in the digital environment. Media users now comment, share, and talk about the content during consumption. Not only do they interact with content, they interact with others.

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John Carey

5 Media Technology Adoption

Abstract: This chapter reviews many classic models of adoption developed from research about nineteenth and twentieth century media technologies and then examines which adoption patterns have changed in the digital era of the twenty-first century. It demonstrates that some principles of adoption have remained the same, e.g., successes are inevitably mixed with fads, failures, and false starts, while other principles have changed, e.g., the characteristics of early adopters and the relative weights of external and internal influences.

Important factors in the classic models of adoption include the role of price, the influence of social context on adoption, early and later adopters of media technologies, motivations to adopt new media, first-in and second-in strategies by media companies, serendipity or unplanned events that influence adoption, cyclical media and technologies that decline as people adopt new ones.

Media technology adoption in the twenty-first century digital era has been affected by the fast pace of technological advances, changes in the social context for media use such as the availability of so much media in public places, and the role of social media in spurring media adoption. There is also a dark side to media in the digital era from sleazy but benign tactics like click bait to piracy of copyrighted content, fraud and the use of social media to recruit terrorists.

Keywords: critical mass, media adoption, diffusion of innovations, serendipity, failures, piracy, privacy

1 Introduction

Theoretical models for media technology adoption were well developed by scholars in the twentieth century. Important factors included price, characteristics of early and later adopters, replacement cycles for existing technologies, and external and internal influences of adoption and critical mass. These principles emerged from research about the introduction of nineteenth and twentieth century technologies, including the telephone, phonograph, radio, black-and-white and color television, VCRs, DVDs, personal computers, and cell phones.

This chapter reviews many of these now classic models of adoption, then turns to digital technologies in the twenty-first century and asks if some or all of these models need to be revised. It addresses these issues primarily in a U.S. context and draws on research about new media adoption conducted by the author, as well as related academic and commercial research. This review demonstrates that some principles of adoption have remained the same, e.g., successes are inevitably mixed

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with fads, failures, and false starts, while other principles have changed, e.g., the characteristics of early adopters and the relative weights of external and internal influences.

2 Classic models of media technology adoption

How do new media devices make their way into the hands of users? Why are some widely adopted and others rejected or find only modest acceptance? Who adopts them, how are they used, and what impacts do they have?

2.1 The role of price

The role of price in media technology adoption has been studied by many scholars, including Aronson (1977), Briggs (1977), Carey and Elton (2010) and de Sola Pool (1983). The price of consumer electronic products has been an important factor in their rate of adoption by the public and in determining the overall size of their market. Historically, new media technologies have been introduced at a high price, which declines over time. Early manufacturing of media technology products is generally expensive, largely because it cannot realize the economies of scale that are possible in mass production, and demand is often unknown. This can lead companies to try to maximize revenue from the first group of purchasers, who are often willing to pay a premium to be among the first to get it. Phonographs, radios, black-and-white TVs, color TVs, VCRs, fax machines and cell phones were all introduced at a high price, which dropped over a period of years (Sterling & Haight 1978). Most of these products cost approximately six weeks of household income when they were first introduced, but declined over time. Black-and-white TVs, color TVs, and VCRs cost less than two weeks' income when they entered half of U.S. households. CD and DVD players were introduced at lower costs in terms of household income and declined to much lower costs when they entered half of U.S. households (Carey & Elton 2010).

The personal computer, a core component of household access to advanced information services today, followed a different pricing pattern. Rather than reduce the price of personal computers (approximately \$2,000) in the 1980s and 1990s, manufacturers increased the capabilities of PCs each year. This was an appropriate response to the early market for PCs, consisting of business users and working professionals. However, at this price the PC was slow to enter the consumer market. In the mid-1990s manufacturers introduced cheaper consumer models, and adoption increased sharply.

The price of media services often drops over time, but the pattern is not as strong as in the case of media technologies. Telephone service provides a good example of

price decline over time. The household adoption of telephone service was linked to reductions in the cost of both basic service and long distance calls in the first half of the twentieth century. The adoption of cell phone service was also linked to a drop in per minute charges in the 1980s and 1990s. However, the cost of cable TV service and satellite TV service did not decline over time. The key variable distinguishing the two groups is content. Where there is no content or the service provider does not have to pay for content (as when users create it), it has been possible to bring down the cost of the service. When the service provides and pays for content, as in the case of cable and satellite television, the costs of talent, production, and content licensing increase over time. Many other factors such as regulations and competition can affect the price of a service and the rate of adoption.

2.2 Social context

The social contexts in which media technologies are used can affect satisfaction or dissatisfaction with the technologies and rates of adoption. A few examples illustrate this point. When the telephone was introduced, all calls had to be connected through an operator. The first operators were boys, who developed a reputation for being rude and unreliable. They were replaced by women who were trained to be polite and diligent, making the user experience more positive (Brooks 1975).

Early telephone service was also characterized by noisy lines. To compensate for this, many early telephone subscribers (as they were then called) would shout over the noise. Some recipients of those calls reacted angrily, feeling the caller was shouting at them. To calm the situation, the Bell Company took out ads instructing people on telephone etiquette.

When telephone service was expensive and there were a limited number of lines, many people subscribed to party lines, where several households shared one line. This meant that you could listen in on other people's calls. Some enjoyed this new source of gossip, but others were unhappy with the lack of privacy (Marvin 1988). Privacy concerns were raised in relation to other technologies, particularly in the second half of the twentieth century. The widespread adoption of computers in companies and government agencies beginning in the 1970s led to a sharp rise in concerns about privacy.

Social context also includes the social spaces where people experienced media technologies. For example, in the late 1940s and early 1950s, television sets were largely unaffordable. The electronics industry responded with a clever marketing campaign. They built extra-large TVs (20 or 21 inches was considered very large at the time) and sold them to bars at subsidized prices. The bars were packed whenever there was a sporting event; Leo Bogart (1972) called this the era of "Tavern TV." People experienced television for the first time in a public location (many department stores also had TVs), fell in love with it, and started saving to buy one.

2.3 Rogers' diffusion of innovations model

Everett Rogers (2003) was a seminal figure in the study of the diffusion of innovations during the twentieth century. One principle in Rogers's research is that exposure to information about a new technology or other innovation can be direct or indirect. People can learn about it from mass media such as advertising (external influence), or by word of mouth (internal influence). Advertising is typically a stronger force early in the rollout of a new technology, when few people own it, and word of mouth is typically stronger later, when more people are likely to own it. Some products generate a lot of word of mouth, positive (e.g., the DVD) or negative (e.g., boomboxes), while other products sneak under the radar. This can affect the relative impact of advertising and word of mouth.

The concept of critical mass is very important in Rogers's framework. When adoption reaches critical mass, additional promotion becomes unnecessary because diffusion is propelled by the innovation's own social momentum. Many variations on this concept have emerged in the academic and popular business literature, for example, take-off point, tipping point (Gladwell 2000), and inflection point. Attaining critical mass is a major goal of those who introduce a new technology.

Who adopts new media first and who adopts later or not at all? It is important to examine the entire adoption process and all groups of adopters, not just first adopters. Early users and later users are often quite different, but how many categories of adopters are necessary to capture a picture of the whole? Figure 1 presents Rogers's model of adopters at different stages in the process.

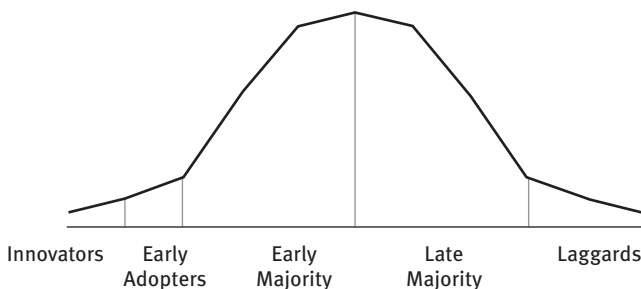


Figure 1: Rogers's model of adopters.

Rogers developed five categories. His first group, *Innovators*, are people who are willing to take risks. As individuals, they tend to have higher income, communicate with other innovators, and often act as gatekeepers for those who will adopt later. His second group, *Early Adopters*, are respected opinion leaders who give advice to

others in their peer and near-peer networks. They are not as daring as *Innovators* but are willing to try new products before they are widely accepted. His third group, the *Early Majority*, is larger than the first two. Those in it are deliberative, not likely to be opinion leaders, and often, after waiting a while, follow the advice of Early Adopters. The *Late Majority* is a generally skeptical and cautious group, and *Laggards* take a long time to adopt new technology, if at all; they have traditional values and are reluctant to change.

Innovators and Early Adopters in the twentieth century were more likely to be male, middle aged, and to have significant disposable income. Many had an insatiable desire for the product or loved electronic gadgets and were willing to pay a high price to be one of the first to own “the latest.” Besides individual consumers, many of the early purchasers were businesses or schools that had a need for the product and the budget to pay for it.

2.4 Piggybacking on replacement purchases and technology push

Sometimes the adoption of one technology or service is linked to the purchase of another. For example, while few people in the 1980s bought a TV set or a VCR just to obtain a remote control or stereo sound, many consumers chose these features as options when they purchased a new VCR or replaced an old TV set. Thus, replacement cycles for existing technologies provide an important opportunity to introduce new technologies. The more rapid rate of replacement for some technologies, such as personal computers, has presented an opportunity for providers of new hardware and services to introduce their technologies more rapidly. This is a conservative model of adoption in which new technologies piggyback on replacement cycles.

A recent example of a rapid replacement cycle is the smart phone, generally replaced every two years. This has allowed manufacturers to introduce new hardware, added memory, better screen resolution, and longer battery life. For technologies with longer replacement cycles, for example TVs (generally replaced every eight years), there is a higher hurdle to convince people to buy a new set before the old one becomes obsolete.

Some successful new services or technologies suffer from false starts or languish for a long time with limited growth. For example, television in the U.S. was launched as a commercial service in the late 1930s, but the high price of TV sets (they cost as much as a car) and the disruption caused by World War II led to a suspension of most service. The technology was reintroduced after World War II and grew rapidly. Similarly, two home video recording technologies were launched and then withdrawn in the early 1970s – the EVR system by CBS and Avco’s Cartrivision system – before the modern VCR finally took hold in the mid-1970s. Fax technology

wins the prize for false starts. It was invented in the 1840s and tested in the 1860s with no significant adoption, reintroduced unsuccessfully in the 1930s and the 1950s, achieved widespread adoption in the business market during the 1980s, and finally entered a moderate numbers of households in the 1990s (Barnouw 1968; Kuffner 1996).

What motivates people to adopt new media? Strong need is certainly a motivator; for example, people who had a strong need to communicate while away from a landline telephone (limousine drivers and executives on road trips) were early adopters of mobile phones. In the absence of a strong need, it is sometimes possible to identify a latent need, one that consumers do not recognize until it is explained through marketing or demonstration, or until they observe others using the product. There was ample evidence in the first decade of mobile phone use that millions of people, not just limousine drivers and traveling executives, had a latent need to make and receive phone calls in locations where there was no landline.

A common criticism of new technologies is that engineers create new devices and companies push them into the marketplace without ascertaining whether there is a need or demand. The criticism is sometimes valid, but there are many examples of technologies that were successfully introduced into the marketplace in the absence of prior demand. Instead, they created demand. For example, people were perfectly happy with the forms of entertainment available to them in the late 1940s: radio, phonographs, and motion pictures. There was little or no demand for television. Steve Jobs famously said that Apple created products that people didn't know they wanted until Apple showed them the product.

2.5 First-in or second-in?

There has been a long-running debate about the advantages and disadvantages of being first or second into a media technology marketplace. The argument for early entry is that small competitive advantages gained early often escalate over time and lead to market dominance. A technology's small early competitive advantage over its competition may arise from chance, a favorable geographic location, or a seemingly inconsequential event such as coverage in a magazine story. Brian Arthur (1990) has championed this position. From Arthur's perspective, a technology with a small marketplace advantage receives positive economic feedback that strengthens the advantage. For example, when VHS and Beta formats were competing in the videocassette market, VHS gained a small early lead. This in turn attracted more retailers to market VHS recorders and more film distributors to make their product available on VHS. Over time, the positive economic feedback for VHS escalated and Beta was essentially eliminated from the consumer marketplace.

Serendipity has also played a crucial role in the adoption process, from the mom-and-pop videocassette rentals shops that emerged spontaneously during the development of the VCR marketplace, to the development of cybercafes by small, independent businesses that brought Internet service to millions of people worldwide. Many large media companies are gun shy when it comes to serendipity, since it often means they are not in control of the planning and marketing of their media technology or service. When mom-and-pop videocassette rental shops emerged in the 1970s, film distributors tried to shut them down. In a landmark case that led to the First Sale Doctrine, the small shops won the right to buy and then rent out videocassettes and set the price. In an ironic twist, the film industry gained tens of billions of dollars on the sale of movies on videocassettes, revenue they initially tried to block.

There are many examples of early market entry that did escalate into market dominance. AM radio preceded FM into the marketplace and dominated radio for fifty years; HBO was the first to develop a national pay-cable service and quickly dominated the market; and the three broadcast networks that entered television in the late 1940s achieved a lock on the market that was not challenged significantly for decades.

However, for each example of early entry that led to marketplace dominance, there is an example of early entry that led to failure or weak market performance. These would include Japan's ill-fated development of analog HDTV in the 1980s, two-way video trials and services for business meetings and medical applications in the 1970s; and the broadcast pay-TV service developed by Zenith in the 1950s. Yet each of these failures was followed by technologies and services for similar purposes that did succeed. There are many reasons why early market entrants fail. In some cases the technology simply does not work properly. In other cases, the costs associated with marketing and launching a service overwhelm an early entrant: for example, several groups that planned to offer direct broadcast satellite services in the early 1980s abandoned their plans when faced with huge launch costs. In other cases, an inhospitable regulatory climate can cripple an early entrant, or consumers' lack of skill in using the new technology can lead to failure. Those who enter a market later may find that their technology works better, costs are lower, consumers have improved skill in using the technology, the regulatory climate is more hospitable, and so on.

A historical review of new media technologies suggests that early entry is an advantage in some cases and a disadvantage in others. It is an advantage when all the pieces are in place (or soon will be) to launch the technology successfully. It is a disadvantage when the technology suffers from one or more serious weaknesses, or the marketplace is simply not ready for it.

A decision to be first-in or second-in will also depend on the content or services offered. Those who develop and market new media technologies often herald "killer applications" that will lead to success. Indeed, there are examples of very popular

applications that helped technologies gain quick acceptance in millions of American homes. For example, early sports coverage on AM radio drove the sale of radio sets. Articles at the time described the magic of being able to hear coverage of your local baseball team playing in another city.

More commonly, however, a confluence of factors is required for a new media technology to take off and gain widespread acceptance. Cable TV provides a useful illustration of the confluence process. From 1950 to 1972 cable television grew from zero penetration of U.S. households to 10% penetration. From 1972 to 1990, cable penetration jumped from 10% to just under 60%. Why did penetration grow so rapidly in the 1970s and 1980s? In the 1950s and 1960s, cable television represented a way to improve television reception for communities with poor reception, generally small towns and suburban areas fifty or more miles from a broadcast transmitter. Cable offered very few extra channels or services, so it had little appeal in areas where there was good reception. In the 1970s, several new elements acted as a starter motor for a large growth engine to kick-in. First, Teleprompter Cable in New York City became profitable; this signaled to industry investors that large city cable systems were viable. At the same time, the Federal Communications Commission (FCC) lifted a freeze on franchise awards in major markets. In addition, satellite transmission made the distribution of national cable programs easier and less costly. There was also experimentation with program formats as well as investment in cable as the technology of the future (Becker 1987). The confluence or combination of factors led to rapid growth.

There is a related pattern: the early uses and the early users for a technology may differ from later uses and later users. The process may be described in terms of a staircase analogy. In order for a technology to be adopted, several steps must be climbed. The first step may have one collection of users and uses but the collection or mix at the second and third steps may change. In this analogy, there must be a first step if the technology is to reach the second step, but those who are introducing the technology must be prepared to shift strategies as they climb each new step.

VCRs illustrate this process. When VCRs were first introduced in the U.S., they were expensive. Early users were generally upscale and many were technology aficionados. Usage included time shift viewing of television programs and a considerable amount of pornography (Klopfenstein 1989). The people who were willing to pay a high price for time shift viewing of programs, along with those who wanted to see pornography, made up the first step of uses and users. They made it possible for a second step of adoption, at a lower price and with a different mix of uses, including videocassette movie rentals and (later) videocassette sales. This analogy implies that there may be services which appeal to a mass market at the second or third step in the adoption process, but which never have the opportunity to test the mass market because no group is prepared to pay the higher price at the first step, or because of some other early barrier.

2.6 Enhancements

It is useful to distinguish enhancements to existing services from the development of entirely new services, and the patterns of adoption for each. Qualitative enhancements to existing services can provide a reasonable path for the development of many new media services. Consumers have responded positively to enhancements such as the introduction of color TVs in the 1970s and 1980s, higher fidelity for recordings, stereo sound for television, and higher definition televisions and computer monitors. New services by contrast provide a more radical change from earlier services. Examples include electronic mail, personal computer software, video games, and streaming video services.

Enhanced services and new services both require, in most cases, that consumers buy new equipment or pay new fees for the service. New services also require a change in how people use media. For example, a person watching color television in the 1970s saw the same content as someone watching black and white TV, even though there was a qualitative difference in their experience. However, someone watching basic cable channels for the first time in the 1970s, or participating in a telephone conference call in the 1980s, was altering his or her behavior.

The issue of creating new applications leads to a further question: who controls content creation for a new technology? In some cases, a new group of entrepreneurs leads content development, as in the case of early personal computer software and the many startups offering Web content and mobile apps. In other instances, existing players control content for the new technology, as in the case of CDs and later digital downloads that were produced largely by the same record industry groups who created LPs and audiocassettes. Entrepreneurs are more likely to bring creativity to the process and generate new ideas. Existing players are more likely to bring financial resources and organizational relationships and help ensure that the technology gets a reasonable opportunity in the marketplace.

2.7 When media technologies are rejected or have short-term appeal

There are also many lessons to be derived from technologies that failed in the marketplace or lost ground after achieving a significant penetration of U.S. households. First, many technologies fail because they offer a superficial benefit. Quadraphonic sound provides one example. Quadraphonic, or four-channel, sound was introduced in the 1970s for the consumer market but did not represent a technological advance. Rather, it represented an application of existing industrial technology (multitrack recording and playback) with a genuine industrial benefit (control of editing) into a home market where no benefit could be demonstrated. Additionally, little music was developed for

the new system, further reducing its consumer appeal. From a consumer's perspective, quadraphonic sound offered no advantage over existing stereophonic sound.

Smell-O-Vision is another illustrative example of failure. Smell-O-Vision was introduced in the 1950s to bring more people into movie theatres in the face of competition from television. The concept was to introduce scents into the theatre that complemented specific movie scenes; for example, the smell of the sea in a scene on an island. It was short-lived. The problem was not so much introducing the scents, but dispersing them before the next scene, which required an entirely different scent.

Media technologies sometimes fail when competing standards confuse consumers or discourage manufacturers from bringing the technology into the marketplace. Teletext provides an example. Teletext was a small text-on-demand service that carried about 100 screens of information (the weather, TV listings, sports scores, etc.) in the vertical blanking interval of a television signal. Teletext flourished in the U.K., where a single standard was adopted. In the U.S., several standards competed for marketplace acceptance in the early 1980s. The FCC failed to adopt a single standard and potential service providers disagreed about which standard to adopt. In this context, manufacturers were reluctant to build the necessary decoders, consumers were confused about what the technology offered, and teletext never emerged as a mass market service (Carey & Elton 2010).

In general, companies have ignored failures and the many lessons that can be derived from them (*The Economist* 2014). An understanding of failures can help technology start-ups avoid repeating the same mistakes. And from the ashes of failure, a phoenix can sometimes arise. For example, there were many clues in the failed videotex (i.e., electronic text) services of the 1970s and 1980s about how online services could succeed, as indeed they did with the arrival of the World Wide Web. Unfortunately, when a technology or service fails, the company that initiated it often lays off the personnel who gained the learning and literally throws out the records of what happened, including the research.

A variation on outright failure in the marketplace is a sharp decline in use of a service or technology after an initial period of success. Some technologies are fads. We are familiar with the history of fads in leisure products such as hula-hoops, yo-yos, and pet rocks. However, consumer media technologies and services can also be fads or have a fad component. Citizen's Band (CB) two-way radio provides an example. In the early 1970s, CB radio had a steady population of approximately 200,000 users. As CB became a fad in the mid-1970s, that population grew to a peak of 10 million in 1976. It then declined almost as rapidly and leveled off to approximately one million users by the early 1980s (Carey & Moss 1985). Other media fads have included boomboxes, beepers for teenagers, and mini-disc players.

Novelties can be distinguished from failures which are rejected by the marketplace, or fads which flourish for a while and then decline sharply, in that they achieve a modest user base and continue in one form or another over time. A good example is

novelty watches. They have been moderately successful in the form of Mickey Mouse watches, watches that tell the time in multiple locations simultaneously, and watches that also serve as stop-watches.

2.8 Cyclical media and technologies that fade over time

Some technologies experience cyclical patterns of strong adoption, decline in usage, and subsequent renewed usage. Videogame consoles are an example of cyclical technology. These consoles and associated software surged in the early 1980s, collapsed in the mid-1980s, and were successfully resurrected in the late 1980s. From the 1990s onward they have experienced cyclical growth and decline, although the fluctuations have not been as extreme as in the 1980s. These peaks and valleys are associated with the introduction of new generations of equipment: 8-, 16-, 32- and 64-bit microprocessors, each of which was replaced by faster processors after a few years. It may be argued that 3-D movies are another example of a cyclical technology. 3-D movies were popular during the 1950s, then faded away only to experience renewed interest in the 1960s and for brief periods in each decade thereafter. With the success of *Avatar* in 2009, many thought that 3-D movies would take hold and flourish, but instead they declined. Some argue that there will be a new cycle of 3-D in the form of virtual reality movies.

Cyclical patterns of adoption and decline can sometimes be anticipated, as in the case of console videogames. After two phases of the cyclical pattern, it could be anticipated that the pattern would continue. Cyclical phases can also be controlled in some cases. For decades, The Walt Disney Company has built cyclical phases into the distribution of its children's movies. They release a movie into theaters and later on DVDs, then withdraw it, only to reintroduce it several years later when a fresh generation will perceive it as new.

When new media technologies and services are adopted, it is likely that some existing technologies and services will decline. There are many twentieth century examples of technologies and services that declined as new ones were adopted. The telegraph declined as telephone service was adopted; 45 rpm records declined as LPs were adopted; over-the-air broadcasting declined as cable and satellite TV were adopted; the typewriter declined as PCs and word-processing software were adopted; and videocassettes declined as DVDs were adopted. In some cases, the decline happened because a new and better standard replaced the earlier one, as in the cases of 45 rpm records and LPs or videocassettes and DVDs. In other cases, the new technology or service was more robust or appealed to a larger audience, as in the case of broadcast evening network news, whose audience declined in competition with 24-hour "all news" cable channels and Web news sites.

Faced with declining sales or users, it is helpful to ask if the technology or service can be prolonged or reinvented. For example, the telegram hung on long after the

telephone and electronic mail replaced the need for it. For a while, it retained a special “status” for important announcements, such as births, weddings, or deaths. It also enjoyed a brief period as a fad in the form of singing telegrams.

3 Media technology adoption in the digital era

How are patterns of adoption similar or different in the digital era of the twenty-first century? Similarities include the introduction of most new technologies at a high price which declines over time, advantages and disadvantages of being first to market, and failures and fads as well as successes. Differences include a faster pace of technological introductions, more time spent with media technology, more women who are early adopters, and earlier internal influences through social media.

3.1 The fast pace of technological advances

We are in a period of rapid technological change which affects technology adoption, much more so than during the twentieth century (Katz 2006). Looking broadly over the twentieth century, there was approximately one major technological advance per decade. It can be argued that there have been more technological advances in the past fifteen years than in the previous 100. Since the beginning of the twenty-first century, we have seen the introduction of HDTVs, Smart TVs, 4K TVs, 3-D TVs, broadband, Wi-Fi, tablets, smartphones, wearable technologies such as smart watches, the Internet of Things, and a torrent of apps and social media.

The rapid pace of change and deluge of technologies and services would seemingly make it difficult for many technologies and services to reach critical mass, since there is so much competition. However, this does not appear to be the case – many have reached critical mass. At least two factors are at work. First, people are more tech-savvy than they were twenty years ago and can adopt new technology with greater ease. Second, people have developed many ways to sort through the mass of content and information to get just what they want. In the twentieth century, many felt overwhelmed with information (Carey 2001); today, apps and search engine like Google serve as important filters for people to control the information that reaches them (Herrman 2016).

3.2 Changes in social context

From a social context perspective, there have been many changes that support the adoption of new media technologies. Many more women are in the workforce, which

creates a need for them to adopt new technologies and media services that are necessary in the workplace. The workforce generally is more educated and better able to use advanced technologies. There is more work at home and a related need to adopt technologies that will support these activities. Also, many more people are in service jobs that require communication technologies, versus agricultural jobs in the first quarter of the twentieth century, or manufacturing jobs in the second half of the century.

People are also spending more time with a wider range of media. The average American spends twelve hours a day exposed to media. This is made possible by multitasking, e.g., using a smartphone while watching TV. The presence of media in so many public locations also makes it possible to use more technology. Some of this is TVs and information kiosks in public locations, but more is based on the mobile technologies that people carry with them, e.g., smartphones, tablets, and laptops.

3.3 The Bass model and social media

Frank Bass (1969) developed a sophisticated model for forecasting demand for new products. A key component in his model (similar to Rogers's, who built on Bass's model) is that early in the launch of new media, external influences such as advertising and marketing have more impact than internal influences such as word-of-mouth. Later, when many people have the technology or service, internal influences such as word-of-mouth have more impact. In the twentieth century, this made complete sense. If there were 1,000 users of a new technology or service, how many people could they reach by word-of-mouth? Advertising was likely to be more influential. However, if there were ten million users, word-of-mouth could be more influential than advertising.

In the twenty-first century, social media has changed the point at which internal influences play an important role. The chances of 1,000 active and vocal users of a new media technology or service influencing others are much greater. Whether through product reviews, Facebook posts, technology forums, group emails, Snapchat and YouTube videos, or other forms of social media, a relatively small number of people can reach a large audience. Further, many people who are considering the purchase of a new technology or service actively seek out reviews and comments by those who already have it.

The importance of social media as influencer is also reflected in the large industry that has emerged to measure social media content and its impact. These social media analytics companies measure what is said, the sentiment (positive or negative), and the engagement of those who post. They may report social media chatter about a company, TV programs, movies, or politicians (Napoli 2016).

3.4 Consistency and change in the role of price

A large group of early adopters in the twentieth century were middle-aged males who had high disposable income and liked technology for technology's sake. In the twenty-first century, there have been important changes. The middle-aged male technophiles are still part of the mix of early adopters, but many more young people and women are early adopters of new media. Further, many with less disposable income (or generous parents) are adopting new technology (Anderson 2015). While there are some technophiles among this younger group, more use the technology for functional purposes (e.g., to find information such as the location of a restaurant or the weather, and to communicate with friends). Media technologies are core to their lifestyles of anytime, anywhere access to media services. Other important early adopter groups include businesses, education organizations, and government agencies (especially the military). These early adopters are similar to those in the twentieth century.

In general, the pattern of introducing new media devices at a high price, then dropping the price over time to achieve a mass audience has continued into the twenty-first century. HDTVs, Smart TVs, and 4KTVs followed this pattern. However, there are some exceptions, notably Apple, which has kept the price of some products high. With other products, Apple has kept the price of the premium model high but offered a cheaper, stripped down version of the product, as in the case of the iPad (Pro versus Mini models).

Few people pay the full retail price of iPhones. Generally, the price is bundled with a mobile phone plan. In these cases, the mobile phone provider is subsidizing the price of the iPhone, with the cost to the provider returned from the monthly usage plan. Subsidies have also been built into the cost of some video game consoles in expectation that the supplier will get the cost back through the sale of video game software.

3.5 Success is still illusive for some technologies

There has been no shortage of failures, false starts, and fads in the digital era. Failures and false starts can be difficult to distinguish in a first iteration of the technology or service. 3D TV has clearly failed in the U.S. This was due to a lack of content, the reluctance of people to wear 3D glasses while watching TV, and nausea experienced by some from the 3D experience. However, there are a few candidates that may turn it into a false start. Virtual Reality (VR) systems launched recently can provide a 3D video experience. 3D TV without glasses is due in a few years (it is available now on some portable video game devices), and some predict that holographic TV is less than ten years away. In this sense, the final outcome for 3D TV is uncertain.

New media fads have been plentiful. Ringtones (downloaded mobile phone software that plays a song chosen by the owner to indicate an incoming phone call) experienced a surge of interest from 2005 to 2008, then faded quickly. Among social media sites, MySpace experienced a surge of popularity followed by a sharp setback and then reinvention as an entertainment site. Many apps have been fads, for instance the video game app Angry Birds. Among the many other apps that have risen to great heights, only to fall were Pokemon, Peach, Meerkat, Ello, and Secret.

3.6 Technologies that have faded in the digital era

If the pace of technology introductions has accelerated, it is reasonable to expect that the pace of technology declines (devices and services being replaced by newer technologies and services) would also accelerate. This appears to be the case. For example, landlines have been declining since 2005.

Table 1 lists both technologies and services that have declined in the past decade. The list is not exhaustive. Depending on the time frame covered, PDAs, public phones, hotel phones, and many early websites could be added to the list.

Table 1: What's fading

Technology	Service
Desktop PCs	Snail Mail
Over-the-air Broadcasting	Buying CDs and DVDs
Telephone Land Lines	Traditional Phone Calls and Mobile Calls
Dedicated Digital Cameras	Watching Network Television
Dedicated Portable Game Players	DVD Rentals
E-Readers	Reading Print Newspapers
Non-HD TVs	Print Classified Ads
Non-Smart Cell Phones	AOL-IM
DVD Players	Use of Browsers on Phones
Print Newspapers	Print Catalogues and Directories

Source: Carey and Elton (2010)

3.7 Timing of entry

The dilemma of whether to be first or second to market persists. The potential advantages of first-in are media attention, social media buzz, and attracting early adopters. It may also help in striking deals with content providers who learn first-hand what the technology can do. These advantages are mitigated by higher costs, the potential for

software bugs that will receive negative publicity, and scarcity of content. A second-in technology can probably come in at a lower cost, have more content, and avoid some of the mistakes of the early entrant. As with many twentieth century technologies, it is hard to predict which is the best strategy.

The Internet of Things (IoT) illustrates the point. IoT generally refers to ordinary objects such as door locks, garage doors, or vacuum cleaners that are connected to the Internet. An early entrant could pick off the low hanging fruit that make the most sense (e.g., thermostats), and leave less likely successes (refrigerators that measure milk consumption) to later entrants. However, a later entrant could assess the field and develop a more comprehensive strategy not apparent to early entrants.

3.8 The dark side of the digital era

Along with the many positive effects of new media technologies, there is also a dark side of negative content and behaviors. These range from annoying journalistic and marketing tactics to fraud and even terrorism. Some existed in the twentieth century world of analog media technologies, but not on the scale or scope of the digital era.

In the twentieth century, most media were controlled by organizations, often large organizations, and some of these were regulated. It was a relatively closed world of TV and radio stations, newspapers and magazines. Ordinary citizens had limited access to media. They could write letters to the editor, create pamphlets, make telephone calls, post notices on community bulletin boards, etc. There was little chance that citizens, and certainly not criminals in third world countries, could take over a TV station broadcast tower or newspaper printing press. That has changed.

Starting with a few of the more benign tactics, some journalistic organizations have taken to click bait and sensationalizing the mundane. This can be in the form of a headline, “The 12 Best Tax Tips for Millennials,” followed by twelve screens, each with one tip and advertising, hoping you will click through all twelve screens. Or the article might be “You Won’t Believe What This Grandmother Found in Her Basement and What She Did About It” followed by a story of a grandmother who found old photos in her basement and made an album with them. More annoying are robo telemarketing calls and spam emails.

Moving into darker territory, there are thousands of fake news sites intended to harm and deceive. Voters in the 2016 U.S. presidential election were bombarded with fake news. One study (Silverman 2016) found that in the three months leading up to the election, the top-performing fake news stories on Facebook generated more engagement (likes, sharing, comments) than the top stories from major news outlets such as *The New York Times*, *The Washington Post*, and *NBC News*.

Privacy has been compromised in many ways, from tracking searches about shoes and selling that information to third parties who then place ads for shoes on

other websites you visit the next day, to recording conversations in a room without a person knowing. Verizon has a patent on a DVR that does this. Phishing, or seeking identity information such as account numbers and passwords through surreptitious emails that appear to be coming from a company where you have an account, has become more sophisticated. Often, the phishing site looks exactly like the real company's website.

Piracy of music, movies, and TV programs is a major drain on the U.S. economy. One estimate places the loss to the U.S. economy due to music piracy at \$12.5 billion per year (Siwek 2007). Unlike stealing credit card information or bank account numbers, most people who pirate music or movies do not see it as wrong, making policing harder. Hacking, or breaking into computers and other devices, is a reverse form of piracy. It runs the gamut from planting viruses on individual computers, to invading government electronic files for information, to ransomware that locks up computers until the user pays a ransom to have them unlocked. It can be done by individuals, government agencies, and organized crime. And it can be done from anywhere. Hacking has branched out to include objects no one thought would ever be hacked, such as IoT objects like doorbells and thermostats. In a major incident in October 2016, hackers took over hundreds of thousands of IoTs and used them for a massive attack on Dyn, a company that acts as a gateway between end users and major websites. For a few hours, sites such as Amazon, CNN, Netflix, and Twitter were effectively shut down (Perlroth 2016).

Bots are very common but not well understood. They are software apps that perform automated tasks. Approximately half of all Internet traffic consists of bots, and half of all bots are good or at least not harmful. For example, Google uses “spiders” to map the Internet and improve search results. The other half of bots steal content from websites, mimic sites to capture advertising dollars, and shut down websites. This means that one quarter of all Web traffic is automated software trying to do harm.

The Web and social media are open to all. They are the most democratic media we have available to us. However, this also means that they are available to gangs, drug lords, rogue governments, and terrorist groups. ISIS has used social media extensively to publicize their terrorist activities and recruit people across the globe to join them.

4 Conclusions

This chapter argued that a historical perspective on adoption of new media is valuable to the study of recent media adoption. It can help us measure the pace of change today in comparison to earlier periods, avoid pitfalls of earlier new media, learn positive lessons about marketing successful technologies, and check in the warehouse of failed technologies for a false start that might succeed with proper adjustments. There are no perfect analogs in the past for a new technology today, but there are lessons.

We are in a period of rapid technological change, with a proliferation of new media technologies and services. At the same time, there has been a remarkable consolidation of content and applications in one device – the smartphone. There is no historical precedent for this. The personal computer may be the closest example from the twentieth century, but very few PC owners in the twentieth century had anywhere near the number of applications available on smartphones today.

Table 2: Selected uses of smart phones: Why do we call it a phone?

Computer	Magazine	Ticket Agent
Radio	Game Player	Map
Television	Bank	Cab Finder
Search Engine	Credit Card	SMS
Movie Theater	Travel Adviser	Calculator
Music Player	Train Schedule	Weather Service
Camera	Email	Address Book
Photo Album	Social Media	Health Monitor
Web Browser	Boarding Pass	Clock
Newspaper	Stock Broker	File Storage

The smartphone represents convergence: the melding of many technologies and services into one technology with many services. The Web, too, is an example of convergence: broadcast TV, cable, radio, and print news services are all on the Web, where the distinction among them is not always apparent. This is positive in terms of convenience, but there is a tendency for all of these news sources, which had distinct perspectives in their earlier formats, to meld into look-a-likes.

Social media have thrived on user-generated content. However, user-generated content will not be sufficient for many high-resolution technologies such as VR and 4K TVs. Some existing content can be adapted (e.g., movies), but much will have to be produced. The business model for this – cost to produce and potential revenue – is a work in progress.

Serendipity is alive and well in the new digital era of media technologies. This is apparent from the thousands of start-ups with creative new apps generated from digital garages and basements in the U.S. and across the globe. One example is the “Info Ladies” in Bangladesh: women who bicycle from village to village and let people who have no technology connect with relatives abroad via Skype for three dollars an hour. However, as in the past, some companies are slow to recognize the value of serendipity. For example, Chris Messina created the hashtag in 2007 (e.g., #whitehouse) to help people find content on Twitter. It quickly spread among users of Twitter and, later, other social media sites. Twitter did not recognize or promote the use of hashtags for two years.

Historically, social norms of appropriate behavior in using new media have lagged adoption. Early email users often flamed out at people who used all caps inappropriately in a message (Carey & Elton 2010). Social norms did emerge but it took time. More recently, social media behavior has been aggressive, rude, and negative. It remains to be seen how long, if ever, it will take for accepted social norms for social media to emerge.

Although this chapter has had a U.S. focus, it is important to note that the U.S. doesn't lead in many categories of new media technology adoption, as illustrated in Table 3. There is much to be learned from other countries that lead in media technology adoption.

Table 3: Where the U.S. doesn't lead: Ranking of countries.

	Most Cashless	Fastest Broadband	Most Mobiles* per 100 People	Most IOTs per 100 People
1.	Singapore	South Korea	Hong Kong	Sweden
2.	Netherlands	Japan	UAE	New Zealand
3.	France	Hong Kong	Saudi Arabia	Norway
4.	Sweden	Latvia	Finland	Finland
5.	Canada	Switzerland	Russia	France
6.	Belgium	Netherlands	Italy	Denmark
7.	UK	Czech Rep.	Singapore	USA
8.	USA	USA	Bulgaria	Ireland
9.	Australia	Sweden	Malaysia	Belgium
10.	Germany	Finland	Brazil	Bulgaria

Note:* The U.S. is not in the top 25.

Sources: ITU; ICT; MasterCard.

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James G. Webster

6 Audience Behavior

Abstract: Many academic disciplines offer theories of audience behavior. This chapter organizes that balkanized literature into three categories. Agent-based approaches explain audience behavior as the result of individuals exercising their preferences and predispositions. Purposeful agents are a feature of many theories including economic models of choice, uses and gratifications, and selective exposure. Structure-based approaches concentrate on macro-level factors and their affect audience behavior. These include social structures (e.g., language and social networks) and media structures (e.g., channels and algorithms). The third category, integrated approaches, combine elements of the first two and see audience behavior emerging from the interaction of agents and structures. The chapter notes how integrated models can illuminate issues such as social polarization and the origin of preferences.

Keywords: rational choice, program choice, selective exposure, taste cultures, public attention, algorithms, audience preferences, audience flow, audience polarization

Audience behavior interests both media professionals and academics. In industry, managing and predicting audiences goes to the heart of the media's ability to make money. Marketing researchers have spent years studying the factors that explain audience size and loyalty. Economists have used models of program choice to critique and advocate for various regulatory regimes. Political scientists, and a good many journalists, have monitored long-term patterns of news consumption with an eye toward their impact on democracy. Psychologists have identified selective exposure as a critical component in a host of media effects. And sociologists have an enduring fascination with people's cultural consumption. For all these professional and academic research perspectives, audience behavior is central to understanding not only the operation of media systems, but also their ability to shape society.

Given that centrality, you might think that a general theory of audience behavior had been developed and tested long ago. That is not the case. In fact, the theories applied to the aforementioned problems are varied and generally not in conversation with one another. This fragmented state of affairs is attributable, in part, to the multi-disciplinary lineage of communication science. It has roots in most of the social sciences, and at least a sprinkling of the humanities. The vestiges of old disciplinary boundaries, both theoretical and methodological, persist and make audience behavior a surprisingly balkanized field of study. The other culprit is the media environment itself. Audience behaviors emerge from that environment, and it has changed dramatically over the years. Theoretical models that once seemed robust are woefully inadequate to deal with digital media.

That said, it's possible to identify two fairly broad approaches theorists take when explaining audience behavior. A review of these will serve as our point of departure

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in this chapter. The first are agent-based approaches. These focus theoretical attention on individual traits and predispositions, often people's media preferences, to explain audience behavior. The second are structure-based approaches. These look to the structural features of society and the media themselves to explain how audiences take shape.

The distinction between agent-based and structure-based explanations is hardly unique to audience studies. It is symptomatic of a long-standing tension in the social sciences between theorists who privilege agency and those who privilege structure. Anthony Giddens, the noted British sociologist, has labeled these schools of thought subjectivism and objectivism, respectively (1984). His view is that neither alone is sufficient to explain the constitution of society. The same can be said of explanations of audience behavior. There are newer integrated approaches that conceive of audiences as the outgrowth of agents and structures working in concert, which I will summarize toward the end. But before reviewing these approaches, a few preliminary observations about audience behavior are in order.

Audiences are collections of people that analysts group together to achieve some purpose, such as orchestrating advertising campaigns, or managing traffic to websites. Audiences are abstractions that we find useful. Two theoretical models are particularly common in analyzing audience behavior. If audience members are anonymous and function autonomously, the convention has been to call them a "mass" audience (Webster & Phalen 1997). If media users can see one another and coordinate their actions in some way, they are thought of as a "networked" audience. Either way, audience behavior is a macro-level phenomenon. Not unlike markets or publics, audiences have their own dynamic properties. Our goal in analyzing audience behavior is not explaining what any one individual does or thinks. Rather, our concern is explaining how large numbers of people come to see or hear something, or how groups of people move from one media offering to the next.

Conceptualizing human beings as masses or networks doesn't come easily to most people. Some critics seem uneasy with aggregation as a matter of principle. They see it as a contrivance with vaguely sinister connotations. Raymond Williams captured this concern in his famous assertion that "there are no masses; there are only ways of seeing people as masses" (1958: 300) Other analysts have no trouble with aggregating people into audiences, but still think of it as a micro-level phenomenon. For them, audience behavior is a relatively simple matter of tallying up individual variation. With a micro-level mindset, all you need to know about audience behavior can be explained by looking at individuals. But that approach runs the risk of missing the insights that come with macro-level analyses. Many features of audience behavior, like audience flow or fragmentation, cannot be usefully conceptualized as a micro-level phenomenon. And networked audiences exhibit many emergent properties, like herding behaviors or information cascades, that can't be explained at lower levels of analysis. As sociologist and Microsoft researcher Duncan Watts has argued, "You could know everything about individuals in a given population – their likes, dislikes,

experiences, attitudes, beliefs, hopes, and dreams – and still not be able to predict much about their collective behavior” (2011: 79). For theories of audience behavior to be truly useful, they have to offer us a way to explain these macro-level phenomena.

1 Agent-based approaches

Most of the social scientific theories that bear on audience behavior can be fairly described as agent-based approaches. They look to the individuals who constitute audiences to explain audience behavior. This is wholly in keeping with subjectivist thinking. Within that tradition, “The human agent is treated as the prime focus of social analysis. That is to say, the main concern of the social sciences is held to be the purposeful, reasoning actor.” (Giddens 1987: 59). Each discipline seems to have its own version of an agent-based approach. They have some differences, but they have much in common. I’ll briefly summarize the most notable examples and then discuss limitations of agent-based theories.

Nowhere is a faith in purposeful, reasoning actors more evident than in *economic models of program choice*. The first such attempt was Peter Steiner’s foundational article on competition in radio (1952). Subsequent work has focused on audiences for linear television (Owen & Wildman 1992). All apply traditional economic notions of “rational choice” to the problem of audience behavior. That is, theorists assume individuals are perfectly aware of their choices and always pick the utility-maximizing option. Hence, it is assumed each viewer knows what programs are available and chooses his or her most preferred program type. Depending on the total demand for different types of programs, competitors will provide the shows that maximize their own channel’s audience at a point in time. Audiences are simply aggregations of the individuals who have acted in accordance with pre-existing program type preferences.

In fairness, these are very abstract models intended to inform policy-making. They assume the existence of “viewer-defined” types for which people have consistent preferences or aversions. Still, the assumption that people are perfectly aware of all their viewing options is problematic. This might have been plausible when there were three or four channels to choose from. But it’s simply untenable in the current media environment.

Even if you believe that people are inclined to choose rationally, imperfect knowledge makes truly rational choice impossible. This is known as the problem of “bounded rationality.” Nobel Laureate Herbert Simon helped popularize the concept and concluded that in most instances people don’t maximize. They “satisfice,” or do the best they can with imperfect information (Simon 1997). That certainly seems to be the case when it comes to digital media use. Not only is the number of choices so vast as to defy complete knowledge, but most media products are “experience goods” (Hamilton 2004). That is, they cannot be fully judged until they have been experienced. You might

know that a particular program is coming on, but you can't be sure if a new episode will be enjoyable until you've watched it. Bounded rationality, and the strategies that people use to cope with it, is a growing problem for all agent-based approaches.

Communication, as a discipline, has its own version of purposeful, reasoning actors. Since the early 1970s, one of its more popular theories has been *uses and gratifications* (U&G). The chapter on media usage in this volume describes the theory and its elaborations, so my description of this approach will be brief. As its founders noted, U&G is “[...] concerned with (1) the social and psychological origins of (2) needs, which generate (3) expectations of (4) mass media or other sources, which lead to (5) differential patterns of media exposure (or engagement in other activities), resulting in (6) need gratifications and (7) other consequences, perhaps mostly unintended ones” (Katz, Blumler & Gurevitch 1974: 20).

This approach is both different from and similar to economic models of choice. Unlike economic theory, it does not begin with preferences that appear from out of nowhere. Rather, a person's media preferences are an extension of his or her needs. But such knowing, instrumental users are very much like the economist's rational, utility-maximizing individual. In fact, the hallmark of the U&G approach is an active audience member whose media use is “goal directed” (Katz, Blumler & Gurevitch 1974: 21). As far as audience formation goes, the paradigm seems to assume that understanding the actions of gratification-seeking individuals will be enough to explain differential patterns of media exposure.

Sociologists approach the subject of media use somewhat differently. For them, people's *tastes* offer the best way to explain what they consume. Here, each person's appetite for culture is an outgrowth of their place in society; their upbringing, education, and occupation chief among them. The traditional – and somewhat dated – expectation is that those who have the most “cultural capital” will prefer highbrow genres that both require and demonstrate the requisite breeding (Bourdieu 1984). But the basic theoretical model is not unlike U&G research. Whether you characterize the underlying causal variable a social-psychological need, or social-economic status, these factors often produce distinct genre preferences. And both approaches understand media choices to be an expression of these preferences.

More recently, social theorists have allowed for the possibility that each person's appetites might not be wed to a rigid hierarchy of tastes. For instance, by the mid-1990s some sociologists argued for the existence of “cultural omnivores” who seemed interested in consuming a range of cultural offerings, rather than sticking to their particular cultural niche (Peterson & Kern 1996). In practice, the empirical search for cultural omnivores has relied heavily on analyses of people's self-declared preferences for genres of music. And it appears that a substantial portion of the population likes a mix of lowbrow (e.g., country music) and highbrow (e.g., classical) music (Goldberg 2011). Although even these omnivores can have idiosyncratic aversions to entire genres (Bryson 1996). In any event, this model of media use still vests its explanatory power in purposeful, reasoning agents.

The most pervasive agent-based approaches are anchored in an expectation that people will engage in *selective exposure*. In essence, selective exposure stipulates that, given a choice, people will seek out things they find agreeable and avoid things they find disagreeable. This intuitively appealing notion gained credibility, and became a fixture in communication theory, when it was wedded to Leon Festinger's theory of cognitive dissonance (1957). Festinger argued that individuals have a need for cognitive consistency. As a result, individuals will attend to communications that comport with their beliefs and actions and avoid things that challenge them, hence minimizing dissonance. This kind of selective exposure is sometimes called a "confirmation bias."

Traditionally, research on selective exposure has concentrated on people's choice of news and information. In the United States, one prominent example is research on the so-called red media/blue media divide. A confirmation bias predicts that conservatives will seek out right-leaning news outlets and avoid left-leaning news. The reverse would be expected of liberals. A great many books and articles have examined this potentially troubling ideological divide in American society (e.g., Bennett & Iyengar 2008, Iyengar & Hahn 2009, Levendusky 2013, Stroud 2011). The best evidence on ideological polarization, however, suggests that powerful confirmation biases are often more a theoretical expectation than a reality (Gentzkow & Shapiro 2011, Messing & Westwood 2012, Nelson & Webster, 2017). Of course, even if levels of selective exposure are modest, partisans might well perceive or respond to the media they encounter in very different ways (Garrett, Weeks & Neo 2016, Iyengar, Sood & Lelkes 2012, Jamieson & Cappella 2009).

Work on selective exposure doesn't end with documenting confirmation biases. In other instances, the motivation for selective exposure to information is its utility or its vividness. Nor have researchers limited themselves to studying just news and information. Another variant is to look for evidence of selective exposure in the use of entertainment (Zillmann & Vorderer 2000). Here, the psychological mechanism that explains selectivity isn't dissonance reduction, but hedonism. That is, human beings can be expected to seek pleasure and avoid pain. As a result, they should selectively expose themselves to media that will improve their moods, although they may not realize that's what they are doing. For a recent compilation of the many approaches that operate under that banner of selective exposure, see Knobloch-Westerwick (2014).

These variations on selective exposure differ in some ways from the models advanced by economists and U&G researchers. The most notable difference is in their stance on people's self-awareness. Under rational choice or the assumptions of U&G, media users are cognizant of their motivations and act accordingly. Under selective exposure, that may or may not be the case. People could knowingly choose things that are agreeable or mood-altering, but self-awareness isn't necessary for selectivity to operate. In fact Dolf Zillmann (1985), one of the founders of "mood management" research, has been deeply skeptical of people's ability to introspectively discern their motives for media use. Hence much of the empirical work in this tradition relies on experimentation rather than self-reports of media use.

Still, selective exposure is very much an agent-based approach. Motivated individuals determine which media they will consume, whether they're aware of those motivations or not. Almost nothing, aside from psychological predispositions, is used to explain exposure. Knobloch-Westerwick (2014: 10–11) briefly mentions a few “pre-conditions” for selectivity, like the availability of content, but largely dismisses them as non-issues in the current environment. Like the other approaches reviewed here, audience behavior simply emerges from the actions of individuals.

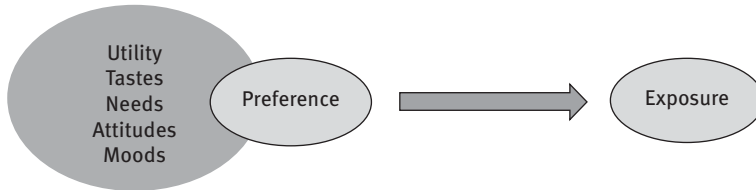


Figure 1: Agent-based models. Adapted from *The marketplace of attention: How audiences take shape in the digital age* by James G. Webster, published by The MIT Press, 2014.

Figure 1 depicts the explanatory framework used by agent-based approaches.

They typically understand exposure to media as a function of preferences, although the origins of those preferences differ by discipline. Such approaches provide us with a rich theoretical vocabulary to describe the motivations of individual media users. But they have two weaknesses when it comes to explaining audience behavior. First, they either ignore or greatly oversimplify the media environment within which users operate. They conceptualize media passively offering up the things from which people actively choose. If anything, that simplifying assumption has become even more seductive in a world of abundant, on demand digital media. Unfortunately, casting the media in a passive role is very misleading. Second, while these approaches all put a premium on people’s preferences in explaining media choice, they invariably assume that these are “exogenous” preferences, which people bring into media environments. Genre preferences simply exist, or they arise from people’s psychological needs or their place in society. Agent-based approaches don’t do a very good job grappling with the possibility that media might actually cultivate preferences. If such “endogenous” preferences exist, the media themselves might play a significant role in shaping audience behavior.

2 Structure-based approaches

Structures are bigger than individuals. Giddens thought of structures as the rules and resources that people use to achieve their purposes. Language, for example, offers

each of us a structured world of words, grammar, and colloquial expressions that we can use as we see fit. Structures span many individuals and persist through time, but they are not fixed like the girders of a building. They can and do change as people use them.

Structure-based approaches offer an appealing way to think about macro-level phenomena because they operate at the right scale. There are three types of structures that bear on audience behavior. Social structures like language, occupational norms, or membership in social networks bear the clearest connection to the agent-based theories we just reviewed. Media structures like TV channels, websites, or hyperlinks are the technological resources upon which people rely. Their features affect patterns of media use. And data-driven structures like targeted advertising, algorithms, or recommender systems are evermore important in shaping audiences, although their influence is sometimes harder to see. We'll consider examples of how each of these structures affects audience behavior. Some studies are clearly grounded in theory, while others are pragmatic attempts to map and control patterns of audience behavior.

Social structures share some of the same ground as agent-based approaches. Certainly U&G and sociological theories of taste make explicit reference to the underlying power of social structures to affect user preferences. Herbert Gans, for example, identified five major "taste publics" in American society. These are hypothetical groupings of people who make similar choices among available cultural offerings. According to Gans, membership in a taste public is determined by many things including "[...] class, age, religion, ethnic and racial background, regional origin, and place of residence [...]" (1999: 94). These social structures vary even more widely on a global scale, and have a marked effect on patterns of internet use. Specifically, language and geographic proximity explain patterns of audience duplication across websites better than a site's genre or hyperlinks (Taneja & Webster 2015).

Historically, social networks have played only a minor role in theories of audience behavior. Rather, interpersonal networks featuring opinion leaders have more typically been conceptualized as mediating the effects of mass media (Katz & Lazarsfeld 1955). But the widespread use of social media has dramatically affected the scale of these networks and how they can be studied. Social network analyses now use the data harvested from these social media platforms to study how social networks shape patterns of public attention (e.g., Bakshy, Messing & Adamic 2015, Wu, Hofman, Mason & Watts 2011)

Media structures also have a marked effect on audience behavior. The simple existence of TV channels and the ways in which they are programmed shape patterns of viewing. As early as the 1960s, marketing researchers documented predictable audience behaviors, including channel loyalty, inheritance effects, and repeat-viewing (Goodhardt, Ehrenberg & Collins 1987). These patterns persist to the present day (Sharp, Beal & Collins 2009, Webster 2006). Additionally, as the number of channels

has grown, audiences have become more widely distributed. Invariably, such audience fragmentation takes the form of a “long tail” distribution, in which public attention remains concentrated on a relatively small number of outlets (Anderson 2006, Webster & Ksiazek 2012). It should be noted that none of these macro-level behaviors are well explained by agent-based approaches. Rather, they are more usefully understood as examples of mass behavior (McPhee 1963).

Networked audiences exhibit their own forms of mass behavior. Just like TV channels, website audiences remain concentrated even in the face of great abundance. These patterns are referred to as “power law” distributions. They emerge from the networked nature of websites. As networks grow, newcomers link to larger incumbents in a phenomenon known as “preferential attachment” (Barabási & Albert 1999, Huberman 2003). This contributes to a “rich-get-richer” dynamic in audience formation. Similarly, the existence of ties among members in a network enables some messages to “go viral.” This mechanism offers a new way to create audiences that has little to do with the predispositions or intentions of individual agents. Unfortunately, while we know some things will go viral, it’s almost impossible to predict which ones, or to control the process (Watts 2011).

Data-driven structures are the newest addition to the media environment. Each of us is dependent on search engines, newsfeeds and recommender systems to navigate all the digital resources at our disposal. They have quickly become an important way for users to cope with bounded rationality. But these systems are never neutral. The data upon which they are based and algorithms they use to direct our attention have systematic biases. Two widespread biases are especially likely to affect audience behavior, personalization, and popularity.

Most of the recommender systems in widespread use today personalize results. Search engines will tailor rankings based on what they know about you. Content providers like Netflix or Amazon will make recommendations based on what “people like you” have done. Social media will manage your newsfeed to favor what the people closest to you have posted or liked. Eli Pariser has called this drive toward personalization the “race for relevance” (2011). He fears that it will eventually capture users in “filter bubbles” – agreeable worlds of media specific to the individuals that inhabit them. These bubbles are not a direct result of choices made by purposeful, reasoning actors. Rather, they are constructed for users based on data-driven structures and are otherwise invisible to the users themselves.

Popularity is the other systematic bias that pervades recommender systems. Search engines often rank results by the number of inbound links that point to a web page. Videos on YouTube, songs on iTunes, or stories in online publications routinely report which offerings are the most popular. Researchers at Columbia University have demonstrated that when people can see what others are choosing, they tend to follow suit, producing winner-take-all markets (Salganik, Dodds & Watts 2006). Hence, data-driven structures that privilege popularity might help promote the long-tail distributions so common in cultural markets.

Popularity often works in tandem with personalization, so recommendations can embody both tendencies. Interestingly, they tend to pull audiences in different directions. Popularity concentrates audience attention. Personalization pulls it apart. But in either event, they exercise an increasingly important effect on public attention that comprehensive theories of audience behavior must now take into account.

Apart from guiding people's choices by offering them recommendations, the media also use data to orchestrate much more aggressive ways to construct audiences. Advertising has long been a way to push messages out to large numbers of people who might not otherwise be interested. This can be a powerful way to create public awareness. Who among us hasn't learned catchy branded messages, or listened to a litany of the virtues and vices of political candidates? In the digital environment, the data-driven tools for targeting content to narrow audiences have grown by an order of magnitude. Ad servers can now identify particular types of people, recognize the immediate context of their visit, and send them tailored messages in a fraction of a second. These practices can create what Joe Turow calls "reputation silos" which function much like filter bubbles (2012).

Structure-based approaches don't dwell on each person's appetites and predispositions to explain audience formation. Rather, they conceive of people as representatives of social structures who operate within an environment structured by media technologies and data. Sometimes, these structures are hard for users to see. Sometimes they are so pervasive or mundane that they hide in plain sight. Most of us scarcely think about how the languages we speak or the locations we live in shape the media we encounter. For some subjectivists, this mentality runs the risk of reducing humans to automatons or passive couch potatoes. But there's nothing in structure-based approaches that requires analysts to abandon the model of purposeful, reasoning agents. It only requires recognition that the structures of the media environment are not neutral. They act on people. And because they are durable and span populations, they operate on a scale that shapes audiences.

3 Integrated approaches

Agent-based and structure-based approaches are expressions of different theoretical traditions and each has tended to function with little consideration for the other. This is not unlike the larger divide between subjectivist and objectivist theories in the social sciences. Giddens's way of reconciling that divide provides a model for how theories of audience behavior might be integrated into a more robust framework. His solution was to think of agency and structure as a "duality," wherein neither could exist without the other. In other words, people exercise their agency by using the structured resources around them. And as they do, they reproduce and alter those very structures. The duality of structure is at the heart of Giddens's "theory of structuration" (1984).

A number of researchers have adopted approaches that deliberately integrate the different forces that shape audience behavior (e.g., Cooper & Tang 2009, Napoli 2014, Taneja & Viswanathan 2014, Taneja & Webster 2015, Thorson & Wells 2015, Webster 2011, Wonneberger, Schoenbach & van Meurs 2009, Yuan & Ksiazek 2011). Broadly speaking, these conceive of media users as knowledgeable agents engaged in purposive behaviors. But their actions are situated in structured environments. Those structures both shape and are shaped by collective behaviors. For instance, linear television both limits and directs audience behavior. However by choosing some TV shows and not others, audiences can and do cause programming structures to change. By visiting particular websites, users affect the algorithms that direct subsequent visitation. Influence rarely flows in only one direction. Moreover, media structures are rarely neutral. They envelop users in “structured flows” (Thorson & Wells 2015) that privilege some encounters over others.

Figure 2 shows one integrated model in which agents and structures operate in loops of reciprocal causation. It builds on the theoretical model of agent-based approaches illustrated in Figure 1, but it represents those actions as occurring within a dynamic environment shaped by metrics and media structures.

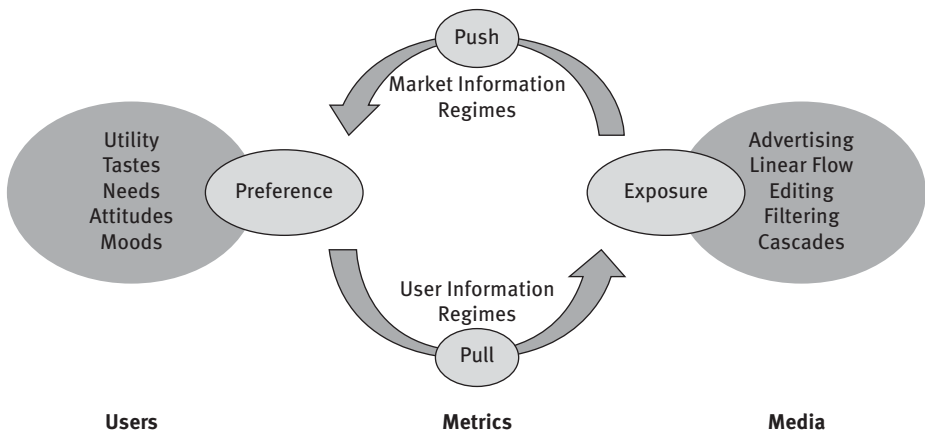


Figure 2: An integrated model. Adapted from *The marketplace of attention: How audiences take shape in the digital age* by James G. Webster, published by The MIT Press, 2014.

As in Figure 1, we assume media users are acting on their preferences. These may well be an outgrowth of the social structures within which users are situated. As people attempt to “pull” what they want from the unimaginably vast offerings of digital media, they often rely upon user information regimes like search and recommendation systems. These data-driven mechanisms provide metrics that shape people’s choices and begin to collect the “digital exhaust” users leave in their

wake. The model conceives of the media as far more active than most agent-based approaches. The bubble to the far right notes that many things, like advertising, or the actions of editors and programmers, can affect what users see and hear apart from whatever preferences they have. In fact, media systematically “push” things at audiences. To do so, they have historically relied on market information regimes (Anand & Peterson 2000, Andrews & Napoli 2006), like TV ratings and other metrics. With these they craft and test audience building strategies. Moreover, market information now includes data from the very recommender systems that people use to find what they want. Harnessing these sources of “big data” can affect audience behavior in ways that may go unrecognized by the users themselves.

4 Concluding remarks

Thinking of audience behavior as emerging from the interplay of users, media systems, and metrics highlights issues that agent-based and structure-based approaches alone have tended to ignore. Two of these issues are particularly ripe for investigation. First, what forces might cause audiences to operate within tightly circumscribed media enclaves? Second, where do people’s preferences for different types of media come from?

One growing concern among social commentators is that the superabundance of media will enable audiences to spend their time in relatively discrete enclaves of agreeable media content. For some, that possibility is a good thing. Anderson, for example, sees the dawn of a new cultural democracy. In his view, digital media will allow people to escape the old hit-driven culture of the past and move their consumption in the direction of more responsive and rewarding “micro-cultures” (2006: 183). More often, though, the emergence of media enclaves is greeted with alarm. This is especially true of theorists guided by a belief in selective exposure. For example, our appetite for ideologically appealing news and information might ultimately cause everyone to live in “echo chambers.” This, in turn, could promote social polarization and hobble deliberative democracies (e.g., Jamieson & Cappella 2009, Stroud 2011, Sunstein 2007).

But we cannot know how or if media enclaves will take shape by considering the actions of purposive, reasoning agents alone. The structural features of the media environment, especially data-driven algorithms, will almost certainly affect what’s to come (e.g., Bakshy, Messing & Adamic 2015, Flaxman, Goel & Rao 2016). In some ways, they could exacerbate the formation of enclaves. If our newsfeeds pander to our preferences and filter out new or dissenting voices, the balkanization of audiences seems evermore likely. This concern weighs heavily on writers like Cass Sunstein (2007) and Eli Pariser (2011). If, however, the recommender systems we use put

a premium on the popularity of offerings, they might concentrate public attention in a way that mitigates the formation of niches. Either way, agent-based approaches won't give us a complete picture.

An even more profound challenge will be understanding the origins of people's media preferences. Preferences of one sort or another are the bedrock upon which most theories of audience behavior are built. As I noted, the social sciences routinely assume that user preferences are exogenous. That is, they develop outside the media system and users simply bring those preferences with them when they turn to media. That seems a dubious assumption on which to build any theory of audience behavior. Surely, people develop new tastes and interests as a result of their encounters with media. And those encounters aren't simply a result of pre-existing preferences. While people's preferences might change in little ways at first, over time even incremental shifts can be consequential. If the media do indeed cultivate preferences that wouldn't otherwise exist, then they have the power to move the culture itself. In Figure 2, that possibility is captured in the "push" arrow that loops back in the direction of user preferences. It is an open question whether the evolution of such endogenous preferences will be confined to relatively trivial changes, like shifting allegiances from one sitcom to another, or if over time more fundamental changes in peoples' tastes and beliefs might result. If it's the former, the media will largely conform to audience appetites as they exist, and perhaps our faith in agent-based approaches will be rewarded. If it is the latter, the media will shape audiences and our theories of audience behavior will have to expand to account for the different forces at play.

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7 Audience Reception

Abstract: The chapter provides a concise description of reception analysis by situating this research tradition in the historical and contemporary landscapes of audience research. It traces reception research to its roots in a research landscape dominated by effects and uses-and-gratifications research around 1980, and succinctly describes its theoretical and methodological DNA as lodged in the empirical study of the ways in which audiences make contextualized sense of their encounters with mediated meanings. More recently reception researchers have extended their empirical domain to also include audiences' sense-making navigation in the mediatized world across legacy, digital, and social media. In parallel, the original focus on qualitative interview methods has been extended to include varieties of mixed methods, including methods for tracking people's digital footprints in their social and cultural contexts. The chapter argues that audience reception processes can usefully be analyzed in terms of their multidimensionality, as sense-making practices driven by audiences' perceived worthwhileness of the media experiences they choose to engage in.

Keywords: reception, audiences, sense-making, qualitative methods, mixed methods, repertoires, worthwhileness, multidimensionality

How can the reading of Facebook's newsfeed be seen as a sense-making activity that contributes to the construction of the user's mediated lifeworld?

This question, asked by media scholars David Mathieu and Tereza Pavlíčková (2017), springs from the knowledge interest that has characterized reception research since its emergence on the horizon of media audience research in the early 1980s. Reception research is founded on the idea that media audience members "read" the media products they encounter in daily life (here: Facebook's newsfeed) as a sort of "text" or discourse. Further, the process of reading media texts is conceptualized as "an activity." This means that unlike the perspective of media effects research, which sees media audiences as "passive" and sometimes as victims of media content, reception research sees media users as actively engaging with and making sense of the media phenomena they encounter. In this process of meaning-making, media audiences draw on the expectations, needs, identities, interests, values, and pre-understandings of the media phenomenon, which they have acquired situationally and contextually in their "mediated lifeworld." Thus, just as the audience's sense-making experience is in a way "determined" by the lifeworld context, this very sense-making process conversely has the potential of transforming, incrementally or dramatically, the user's lifeworld (i.e. their sympathies, allegiances, values, attitudes, and behaviors).

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Mathieu and Pavlíčková's analysis approached users' readings of Facebook from a cross-media perspective, because they see the contemporary media culture as inherently cross-media (Schrøder 2011: 5). In order to do so, they extended the definition of the cross-media concept from covering the relations between a variety of separate media platforms to denoting, with Facebook and other social media, the notion of

cross-media *within* (...) satisfying, *within* one meta-medium, many of the needs that the audience has traditionally fulfilled by consuming a variety of content *across* the media landscape. (...) Facebook becomes a hub through which different aspects of everyday life and the mediated world potentially enter the consciousness of its users (Mathieu and Pavlíčková 2017: 428f)

While also drawing theoretically on the not empirically oriented reader-response theory (Iser 1978; Sandvoss 2009), Mathieu and Pavlíčková are explicit about their adherence to the empirical reception paradigm:

We rely on the framework of reception analysis that studies the meanings that people engage with and draw from their mediated experiences. (...) we are thus concerned with the reading practices that users employ with the Facebook newsfeed in order to actualize the cross-media flow of diverse contents seemingly unrelated and yet supposedly relevant to them (...), into a meaningful cross-media experience. (Mathieu and Pavlíčková 2017: 429)

While this is not the place to report in detail on their methods and findings, a few words about these aspects of their reception-analytical study are in order. They recruited eleven 29-45-year-old expatriates, whom they assumed to have interesting and varied communicative needs that Facebook would serve (i.e., keeping in touch with their homeland and establishing new connections in their country of residence). The research question (see the first sentence of this chapter) was answered through a mixed-method approach that combined qualitative, semi-structured face-to-face interviews with a guided, "commented" think-aloud tour of their Facebook newsfeeds.

The interpretive endeavor focused on illuminating the strategies participants used to "organize, prioritize and hierarchize" their Facebook reading experiences, as they brought "attentive, selective and interpretive agency to their meeting with the text of Facebook" (Mathieu and Pavlíčková 2017: 431). In navigating through the various content providers in their newsfeed, users drew on what the researchers interpreted as a dichotomy between "consociates" and "contemporaries." The former were people who are close and important, like family and close friends (consociates), and the latter were people (both acquaintances and public figures/celebrities) to whom they felt more indifferent. Maintenance of the world of consociates was accorded the utmost priority by users, who employed various filtering mechanisms to prevent the world of contemporaries from flooding their newsfeeds. Users also used consociates to filter the relevance of aspects of the public world. If a public matter was brought in by a consociate, it had a better chance of being found relevant enough to warrant further scrutiny.

Users employed a variety of reading strategies to control and tailor the newsfeed. The two most salient ones were labeled “upstream” and “downstream” reading strategies. Upstream strategies control the flow of content before it appears in the newsfeed, through “hints to the assumed algorithm of Facebook” (i.e. blocking or hiding some kinds of content, or encouraging the occurrence of other kinds of content by the use of “likes”) (Mathieu and Pavlíčková 2017: 434). Downstream control strategies have to do with “the attribution of relevance on a momentary basis during the act of reading” at every visit; both strategies “nod to the Facebook algorithm, simply in different ways” (Mathieu and Pavlíčková 2017: 434).

At the end of their study, Mathieu and Pavlíčková reflected on the explanatory power of their reception-analytical approach to the use and experience of Facebook as a “cross-media within.” Their reflections apply to most reception analyses of audience members’ encounters with mediated texts or other kinds of mediated practices. The explanatory power of reception analysis, they say, does not reside in an ability to measure audience practices with generalizing intent, as we see for instance with representative surveys of audience behaviors and attitudes. Rather, it resides in the discovery, through the thick description of audiences’ verbalized accounts of their media-derived meanings, of phenomenological insights into everyday life that may serve as the conceptual building blocks of new theoretical frameworks for understanding media cultures.

The above illustrative summary of a recent example of audience reception research will be supplemented in the rest of this chapter with a structured account of the constituents and characteristics of audience reception research. After locating reception research historically in the scholarly landscape of audience research, I shall discuss its main theoretical tenets and methodological agendas, demonstrate two theoretical models for undertaking empirical reception analysis, and discuss the paths which audience reception analysis may follow in the digital, mediatized culture in years to come.

Before continuing the discussion, with “audience” reception as a given, we should briefly address the suggestion that has been made that audience research should be abandoned as a result of the alleged obsolescence of the term “audience” (McQuail 1997: 142). This claim was epitomized by Jay Rosen’s famous dismissal of “the people formerly known as the audience” (Rosen 2006), based on the argument that people have themselves become media producers as they participate in the production of content. Audiences, Rosen said, “are no longer inactive, no longer on the end of a top-down media system that runs one way. They too have the tools of production (...)” (Rosen 2006). While this gradual movement of audience members into the role of “user” or even “produser (Bruns 2005)” cannot be overlooked, the fact is that people are still very much – or even more so (McGuinness 2016) – audiences of media forms and contents (Carpentier 2011). While this is an issue worthy of separate debate, this chapter proceeds from the belief that audiences will continue to be a cultural phenomenon in need of research for many years to come (Couldry 2011; Gassner 2007: 127), not

least if the phenomenon is understood outside of the framework of the broadcasting regime where audiences are seen as sedentary and inactive (Napoli 2010; Carpentier et al. 2013: 4–5). In a digital, mediatized society, we can therefore define the term “audience” as “the people who, in their capacity of social actors, are attending to, negotiating the meaning of, and sometimes participating in the multimodal processes initiated or carried by institutional media” (Schrøder and Gulbrandsen, in press).

1 Audience reception research as a historical paradigm of audience research

Most media scholars today think of reception research as an analytical variety of audience research that came into being around 1980. However, something very much like the research today defined as reception research had significant predecessors several decades earlier, when scholars from psychological and social psychological backgrounds conducted qualitative research about the ways listeners made sense of radio daytime serials (Herzog 1944; Warner & Henry 1948). Critical of the oversights of effects research, for instance, Herta Herzog believed that in order to understand “escapist” media effects it was necessary to listen carefully to people’s introspective accounts of their listening experience. Due to the hegemonic dominance of survey-based audience research from the 1950s onwards (Gitlin 1978), these qualitative studies were all but forgotten. They became “the victim of a scholarly spiral of silence, because they began the empirical exploration of what the mainstream considered to be unresearchable, i.e. cultural meanings and interpretations” (Schrøder et al. 2003: 38).

When reception research was reinvented in the 1980s, its founders saw their efforts as the creation of an entirely new kind of audience research: “At either end of the communicative chain, the use of the semiotic paradigm promises to dispel the lingering behaviourism which has dogged mass media research for so long” (Hall 1973: 5). This quotation is from British cultural studies theorist Stuart Hall’s seminal paper “Encoding and decoding in the television discourse,” a text that has acquired canonical status among reception researchers (Gurevitch and Scannell 2003). Hall’s prophecy shows that he was not just seeking to rejuvenate and revolutionize audience research by laying the foundations of a new meaning-oriented kind of analysis of media *reception*, but to innovate theoretical and methodological orthodoxies “at either end of the communicative chain,” i.e. both the production/encoding process and the reception/decoding process. Hall’s text made a huge impact on audience research, but was at the time largely ignored by researchers analyzing media production (Deacon et al. 1999; for a notable exception, see Gripsrud’s (1995) holistic study of the American soap opera *Dynasty* across its production, text, and audience dimensions).

Hall did not dispute that media have effects. But he accused media effects research of relying on a simplistic, behavioristic notion of message effects, which ignored the ways in which audience meaning processes must be seen as a crucial intervening variable to be analyzed separately:

Before this message can have an “effect” (however defined), or satisfy a need or be put to a “use”, it must first be perceived as a meaningful discourse and meaningfully decoded. It is this set of decoded meanings which “have an effect”, influence, entertain, instruct, or persuade, with very complex perceptual, cognitive, emotional, ideological or behavioural consequences. (Hall 1973: 3)

As the phrase “be put to a ‘use’” hints, Hall was also lashing out against another predecessor in the history of audience research paradigms: uses and gratifications research, which had begun the critique of effects research by reversing its key question “What do the media do to people?” to “What do people do with the media?”, thereby inaugurating the “active audiences” paradigm in audience research (Blumler & Katz 1974). Despite agreeing with this focus on the knowledge interest guiding audience research, Hall had a remaining quarrel with uses and gratifications research, on several counts:

- it retained the transmission model of communication with its simplistic linear conceptualization of meaning as transport from senders to receivers, whereas reception research based its analyses on semiotic models that saw meaning as a product of complex signifying processes anchored in social contexts, such as class and gender structures (Morley 1980).
- it saw people’s media selection as guided by awareness of their media needs and rational choice of the most gratifying media, while reception research saw media choice as substantially determined by subconscious rituals and routines embedded in everyday cultural meanings.
- it insisted on rigorous measurability with quantitative survey methods, while reception research was to be premised on qualitative methods as the golden road to people’s subjective cultural meanings characterized by indeterminacies and ambivalences.

In the politically heated intellectual climate ruling many university departments in the humanities and social sciences at the time, Hall, with his politically anchored background in Marxist cultural studies, also saw it as an unforgivable sin that the British practitioners of uses and gratifications research were political moderates. Hall felt that these practitioners, personified by James Halloran’s research group at Leicester University (Halloran 1970), put their research in the service of the political establishment, whose ameliorating solutions to social inequality would not remove its fundamental causes in the class structure of capitalist society (Schröder 2013: 331).

Finally, the intellectual position of early cultural studies-oriented reception research was defined in opposition to another Marxist-inspired school of thought:

the German Frankfurt School of critical social theory (Horkheimer and Adorno 1947). What Hall and his allies reacted against here was the cultural elitism that insisted on the superiority of difficult highbrow art, accompanied by condemnation of the products of popular culture for seducing the masses. With his background in the rehabilitation of English working-class culture undertaken by cultural theorist Richard Hoggart (1957), Hall argued that media and popular culture were a meaningful cultural resource for ordinary people, and should be seen as a legitimate and valuable scholarly research object. This vision chimed well with the non-elitist argument of cultural theorist Raymond Williams that culture should be seen not just as elevated works of art, but as “a whole way of life” (Williams 1958).

Methodologically, reception research’s conflict with Frankfurt School-inspired cultural analysis targeted its insistence on textual analysis of the media texts as the way to understand how texts affect audiences ideologically. Reception researchers argued that it was necessary to supplement textual analysis with empirical fieldwork designed to have audience members verbalize in their own words how they “read” the informative and entertaining products of the cultural industries.

2 The DNA of reception research (1): Making sense of media products as texts

The DNA of reception research was built from the genes of at least half a dozen scholarly disciplines including cultural studies, sociology, social psychology, literary studies, linguistics, and anthropology. Media-interested scholars brought up in these disciplines came to believe that people’s sense-making practices around media and popular culture were a knowledge lacuna that should be better understood.

At the level of grand theories, reception research has been said – as a “helpful overstatement” (Jensen 1991: 135) – to take its theory from the humanities and its methodology from the social sciences:

The humanities (...) have contributed the conception of mass communication as a cultural practice producing and circulating meaning in social contexts. The social sciences (...) have informed the use of particular modes of empirical inquiry into the process of interaction between mass-mediated messages and their audiences. It is the convergence of these roots (...) which may explain the emergence of a new form of audience research during the 1980s that represents an emphatic articulation of the qualitative turn. (Jensen 1991: 135)

Reception research thus brought together two broad groups of scholars: scholars from the humanities, who were strong on semiotics, discourse analysis, and literary aesthetics, and whose media research consisted in interpretative close-readings of the visual and verbal “texts” of the print/broadcasting culture; and researchers from the

social sciences, who were strong on different forms of fieldwork designed to enable behavioral measurement, including qualitative interview methods.

In its early years reception analysis was a textually focused enterprise, aiming to answer the question “How do people make sense of media messages?” The following definition of reception research expresses this early knowledge interest, which some scholars still adhere to as the genuine form of reception analysis:

Reception research is a form of audience research which explores the meanings and experiences people produce as a result of their contextualized encounters with media products, carried by a variety of analogue and digital technologies, and conceptualized as verbal and visual texts, or discourses. (Schrøder 2016: 1386)

Dubbed “audience cum content” analysis by some, this type of reception research recommended “a comparative textual analysis of media discourses and audiences discourses” (Jensen 1991: 139). Typically, the reception researcher would first analyze the semiotic and aesthetic aspects of a news program, a fiction serial, or an advertising campaign in order to illuminate its “preferred” cultural meaning and potential ideological implications. Then the researcher would design an interview-based reception study in which audience members’ meaning production would be elicited in individual or focus group interviews. The third stage compared the meanings of the media text with the audience readings, aiming to map the audience readings according to the canonical threesome of “dominant,” “negotiated,” and “oppositional readings” (see below), before concluding about the hegemonic or empowering role ostensibly played by the media product.

Other scholars advocated a non-comparative approach, with reception analysis as a stand-alone study. In a radical formulation, Kim Christian Schrøder claimed that “the text itself has no existence, no life, and therefore no quality until it is deciphered by an individual and triggers the meaning potential carried by this individual” (Schrøder 1992: 207). The text is only important as the trigger of audience readings; therefore, a preliminary detailed analysis of the media text would be superfluous, or even an unfortunate side-tracking of the reception-analytical endeavor. If the researcher became too familiar with the TV serial or news program prior to conducting the reception interviews with audience members, the interview might be polluted by the researcher’s intimate familiarity with the media text, causing him or her to probe textual elements which played little role in the audience member’s reading. However, a comparative analysis of media product and audience reading could be done in reverse order without adverse consequences: once the interview captured the authentic audience experience, the researcher could trace the salient readings back to their textual provenance in the media product. An example of this strategy at work is Justin Lewis’s reception analysis of television news stories, in which he aimed to discover the trouble spots in the news narrative causing low-educated audience members to be impaired in their understanding of civic affairs (Lewis 1991).

Across such internal divisions, the pioneers of reception research were curious about how the audiences of a television news program, a television serial, a romance novel, or women's magazines decoded, or read, the visual and verbal signs that carried the factual or fictional narratives. Their analyses were often based on Hall's conceptual inventory according to which media products offered audiences a "preferred meaning," to which they could respond with three types of readings: a "dominant" reading, characterized by full acceptance of the ideological content of the message; a "negotiated" reading, in which audiences would partially accept the version of reality offered by the message, but also shape the experience based on their own views on the matter; or an "oppositional" reading, which rejected the media-conveyed message completely and interpreted the message in accordance with an alternative, potentially subversive meaning repertoire.

This conceptual ensemble represented a theoretical attempt to solve the paradox of effects, by both allowing for media having some effects on audiences, while simultaneously denying their ideological omnipotence, recognizing the potential of audiences' political and cultural agency, and the power of contestation to bring about incremental or radical social change.

Thus, in his landmark study of the audience readings of the British current affairs program *Nationwide*, David Morley (1980) operationalized the conceptual framework of Stuart Hall (1973), exploring how people with different class backgrounds made sense of this mainstream TV program. Morley's reception analysis was based on the Marxist premise that any program coming out of the culture industries or the state-controlled media (such as the public service institution BBC) would carry a "preferred meaning" that was politically hegemonic, i.e. it would represent the social order of capitalist class society as being in the best interest of the whole nation, irrespective of people's class background. The *Nationwide* program would therefore engineer political consent among viewers, to the extent that they applied the "dominant" reading to the program. According to Morley's analysis, this was actually what most people did, but his group-interviews with people from different walks of life also showed that some produced "aberrant" readings, which were more ("negotiated") or less ("oppositional") resistant to the naturalizing depiction of social and political relations.

Other studies of the reception of factual genres adopted a less ideologically entrenched perspective on media/audience relations. For instance, Klaus Bruhn Jensen (1986) explored the ways in which American viewers of mainstream TV network news programs were enabled by these programs to fulfil their role as democratic citizens in a monitorial way, while their news program readings did not serve to empower them to become politically engaged.

When early reception research studied fiction and entertainment media, it was often done from an explicitly feminist perspective. For instance, Janice Radway's path-breaking *Reading the romance* (1984) studied how a community of female romance readers, gathered around a bookstore in a small American town, made

sense individually and communally of the patriarchal narratives of the genre. Including studies of the romance publishing industry and of the romance narratives themselves, the reception analysis demonstrated how the women readers in their patriarchally oppressed family position adopted reading strategies that vindicated their inferior role. This could happen both as a consequence of the way they made sense of the hero-heroine relationships and because the act of reading gave them a pretext for temporarily withdrawing, physically and mentally, into a domestic space of their own.

In a similar vein, Dorothy Hobson's reception analysis of trivial television fiction demonstrated the meaningfulness of women's pleasures derived from watching soap operas, thus rehabilitating soaps (Hobson 1982). Ann Gray's study of women's struggles to master the new media technology of video recorders moved reception analysis into the area of technological sense-making in the family (Gray 1992; see also David Morley's 1986 study of the living-room struggles around TV program selection in the age of the remote control). A common thread running through many of these studies was the concerted effort to rehabilitate the genres and cultural forms which the legitimate taste deemed culturally worthless. This perspective was reflected in a chapter title – , "Easily put down" – in Joke Hermes's (1995) book about women's readings of glossy magazines, and in Kim Schröder's non-feminist, culturally relativist argument that a primetime soap opera like *Dynasty* could hold genuine cultural value for its devoted audiences (Schröder 1992).

In addition to class and gender, some interest has been devoted to exploring the ethnic diversity of audience readings. Most famously, Tamar Liebes and Elihu Katz (1990) simulated the pleasures in different cultures across the globe of watching the American primetime soap opera *Dallas* by doing a reception study among five different immigrant ethnic groups in Israel. They concluded that readings of this imported serial were largely hybridized with elements of the local culture of the ethnic groups, and therefore the widespread concern about America's cultural imperialism should not be exaggerated. A related concern over the televisual representation of ethnicity was explored by Sut Jhally and Justin Lewis (1992) in a reception study of readings of the American situation comedy *The Cosby Show* and its role in white and black viewers' negotiation of ethnic stereotypes and identities. More recently, Alexander Dhoest (2009) studied the ways in which ethnic minorities in Flemish Belgium used Flemish soap operas to build a multi-ethnic imagined community.

Across many of these reception studies there has been an interest in the audiences' level of media literacy and their ability to adopt a critical stance towards the products offered by the cultural industries (Buckingham 1993). Looking at young consumers of advertising, Mica Nava and Orson Nava (1990) asked whether they were "discriminating or duped." Their reception analysis noted "the very considerable though untutored skills which young people bring to bear in their appreciation of advertisements and which they exercise individually and collectively" (21).

3 The DNA of reception research (2): Audiences' sense-making navigation in media situations and landscapes

While the first phases of reception research predominantly focused on understanding audiences' encounters with media texts, from early on there has also been interest in exploring the ways audiences make sense of the situational use of media as a combined technological and cultural form, and more recently, how audiences navigate in cross-media landscapes. I mentioned above how David Morley (1986) analyzed the family dynamics of television program selection with the use of the remote control, in the days when availability of multiple TV channels was revolutionizing living-room practices (see also Ang 1995). Another prominent early study in this vein was James Lull's (1980) influential semi-ethnographic analysis of the social uses of television in the daily lives of 200 American families.

However, in the early 1990s the number of actual studies of this situational orientation of reception research was still dwarfed by reception analysis of media texts. The exploration of media environments was seen as an important future avenue for reception research: "Because mass media are increasingly interrelated, both institutionally and through their discursive forms, it will be important in the future to study the social contexts of media use as whole *media environments*. (...) The mass media exert whatever impact they have, not singly but in concert, in ways that require contextual and discursive modes of analysis" (Jensen 1991: 147).

The explicit requirement to apply "contextual and discursive modes of analysis" held signal value for the reception analytical undertaking in the wider field of audience research. Audiences' behavior in their media environments had already been studied intensely for decades, but – in the eyes of reception researchers – from the decontextualized perspective of media selection research, with statistical methods of analysis (Katz et al. 1973; Webster 2014). The agenda proposed by Jensen was to apply the qualitative lens to such audience practices, alone or in conjunction with a multimethod research design. For instance, Jensen et al. (1994) analyzed in a mixed qualitative and quantitative study how family audiences transformed the flows of multiple available tv channels into family channel repertoires by zapping on the remote control. In light of these extensions of reception research beyond the audience's encounter with media texts, it is necessary to modify the definitional DNA of reception research suggested above, as follows:

[The scope of reception research encompasses] all forms of research which, irrespective of methodological approach, seek to understand all audience sense-making processes around media, without privileging people's receptive interpretation of concrete media products. (Schröder 2016: 1386)

In recent times this interest in extending the scope of reception research to encompass all kinds of meaning-oriented audience research has manifested itself widely in

the study of media cultural practices, but it has had a particular impact in the area of news audience research. There, the scholarly emphasis has turned towards mapping ways in which news audiences make sense of their daily navigation in the supermarket of news, sometimes with the aim of establishing the news repertoires into which users habitually organize their news platforms and titles (Hasebrink & Popp 2006; Swart et al. 2016).

One influential contribution has emerged from Irene Costera Meijer's diverse, multi-method research into the changing patterns of news use over the last decade. Bringing all this research together in one synthesizing report, Costera Meijer & Groot Kormelink (2014) took their point of departure in the often far-reaching claims about how news consumption has been revolutionized over the last ten years. Noting how such claims have usually been based on a mixture of survey research and web metrics, their research looked at "how people actually understand the practices in which they are engaged," by analyzing "the categorizations of practice that people themselves make" (Costera Meijer and Groot Kormelink 2014: 3). By following this phenomenological strategy of inquiry, they "avoid preconceptions about what counts as 'news' and what counts as 'doing'" (3). Their open approach provided an impression of audiences' own news genre classifications, which turned out to include some forms of talk shows, news satire, and consumer programs. It also avoided the sometimes extreme focus on clicks found in industry research. In addition to asking how, where, and when people use news, Costera Meijer and Groot Kormelink (2014: 2) studied what they were doing with it, and investigated "how news usage orders, controls, organizes and anchors other social and cultural practices," and vice versa.

Costera Meijer and Groot Kormelink's analytical lens can be labeled "how to do things with news," echoing J.L Austin's (1962) landmark analysis of speech acts: *How to do things with words*. Briefly, they found that before the deluge of digital and social media around 2010, people described their use of traditional news media (including early online news sites) with the verbs watch, view, read, listen, monitor, check, snack, search, and click. These news consumption activities, mainly of a lean-back kind, continue into the age of social media, where they are supplemented with the verbs link, share, like, recommend, comment, and vote, which denote a more lean-forward kind of news engagement.

With this analysis, Costera Meijer and Groot Kormelink (2014) were able to broaden and deepen the existing professional and academic vocabulary about news use. They demonstrated that the changes in news consumption are a lot more ambiguous than is often assumed: "the popular assertion that digital, social and mobile media have unleashed an all-out revolution in the way people deal with news is both true and untrue" (Costera Meijer and Groot Kormelink 2014: 12). For one thing, they advised journalists and journalism scholars alike that they would "do well to part with clicking metrics as a sound standard for the level of interest or importance attached to a news item" (Costera Meijer and Groot Kormelink 2014: 13).

In another corner of the cultural realm Anja Hagen and Marika Lüders (2016) analyzed users' experiences of music streaming services. Noting that music streaming services incorporate social features that make it possible for users to connect with each other, they analyzed how users of Spotify and Tidal share music tracks and playlists on social media, as an aid to navigating the enormous catalogue of music on these platforms. Their knowledge interest was to better understand users' experience of music sharing as an ongoing management and performance of taste, identity, and belonging. The study relied mainly on 23 focus group interviews, but also included an array of mixed qualitative methods (diaries, online observation, and individual interviews with heavy users). Their findings drew a detailed and complex picture of the meanings invested in music sharing by three distinct groups: all-sharers, selective sharers, and non-sharers. Interestingly, these types of sharers can be seen as an oblique mirror image of Stuart Hall's original tripartite distinction between dominant, negotiated, and oppositional decodings.

4 Operationalizing the reception-analytical mindset for empirical analysis: “Worthwhileness” and “multi-dimensionality”

At any given point in time the media types, platforms, and brands (for short in the following: platforms) used by an individual can be seen as a media repertoire. Such a repertoire has been assembled through a gradual and never-ending process of selection and maintenance from the entire media ensemble available in the media culture as a whole, as filtered through the various communities and networks to which a user belongs (Hasebrink and Hepp 2017). The knowledge interest of reception researchers in these media repertoires is two-fold.

On the one hand, reception researchers wish to understand the meaning-processes which have resulted in the formation of the repertoires, and which are activated on a daily basis in order for people to continue to appreciate the media platforms which are members of their repertoire. Sometimes these meaning-processes will result in a given platform being ‘dismembered’ from the repertoire, possibly for replacement with one of the other media platforms they have encountered in the cross-media universe (Bjur et al. 2014). One theoretical concept to explain the formation of media repertoires is the notion of “worthwhileness” (Schröder and Larsen 2010). Why do people become aware of a given media platform, engage with it, and gradually come to use it habitually? The short answer is that they do so because they find this media platform *worth their while*. Worthwhileness is thus connected to an individual's subjectively experienced situational and material circumstances and informative and affective needs. The perceived worthwhileness of a media platform can be subdivided

into seven worthwhileness factors (briefly described below), which can be used as an open-ended heuristic matrix for operationalizing the study of the meaning processes that determine how audiences compose their media repertoires from the ensemble of media platforms in their culture.

On the other hand, reception researchers also wish to understand the meaning-processes applied by audience members when they are reading, decoding and on the whole experiencing the concrete media products, or texts, which they have built into their repertoires of selected media platforms. These textual encounters can be heuristically and rigorously analyzed in qualitative interviews by systematically adopting and following a multi-dimensional model of audience readings of media texts (Schrøder 2000). This five-dimension model of reading dimensions will be briefly presented below.

4.1 Worthwhileness factors as a guide to the analysis of audience engagement with media landscapes

Worthwhileness is an everyday experience, which can be dissolved into a number of contextual factors and circumstances, which cumulatively determine whether and why people allow a media platform into their cultural sense-making processes and end up engaging regularly with this media platform as part of their repertoire. The seven factors that make up worthwhileness are time, situational fit, normative pressures, public connection possibilities, price, participatory potential, and technological appeal. The reasons that determine why people expose themselves to and engage with a media product or platform can be understood with reference to the concept of worthwhileness defined in terms of these seven factors.

Worthwhileness factors are not objective circumstances whose importance can be precisely calculated. In accordance with the meaning base of reception theory, they should be seen as subjectively perceived factors related to the values a given media platform has for someone. In practical research designs, the worthwhileness concept can be used more or less rigidly, either as an informal back-curtain that informs the qualitative research encounter, or as inspiration for concrete questions for fieldwork.

Although worthwhileness was originally proposed as a concept for explaining the use and reception of news media (Swart et al. 2016), it can be argued that all reception processes derive from the individual's perception of worthwhileness. If used by reception researchers outside of news audience research, it is conceivable that additional factors may have to be added to the original seven, and conversely that some of the seven factors can be deemed less relevant.

The seven factors that comprise the conceptual anatomy of worthwhileness are as follows (Schrøder & Kobbarnagel 2010: 118–121): First, it is necessary that the contemplated media experience can fit into the *time* structures of everyday life, seen along a

continuum of importance. Some media platforms will be experienced as so important that people organize their time to always make room for them during the day. Others will be regarded as so trivial that they will only be used when there is an excess of time, or in time pockets that have to be filled (e.g. while waiting for the bus). In such instances, a media platform can be worthwhile by default.

In order to be worthwhile, a media platform must have *situational fit*, i.e. a location/situation must invite or allow for the use of the platform, such as listening to the radio while driving in a car, checking the news online during an office lunch break, or watching the evening news in the living-room. Conversely, certain situations may have rules that prohibit the use of a media platform, for instance during family meals.

Normative pressures comprise encouraging as well as discouraging inputs from one's surroundings and networks. One may take up a subscription to Netflix because it has become a recurring habit and topic among one's peers, or abstain from joining debates on Facebook because one's networks look down on this.

Public connection has to do with how the content found on a platform enables you to maintain an orientation to the public sphere, where citizens are informed about politics and public affairs in order to equip themselves for the democratic role of responsible citizen (Couldry et al. 2007). In addition to building the prerequisites of traditional democratic agency, the concept can be extended in the direction of cultural and everyday citizenship to also include how a platform is used to maintain one's sense of belonging to cultural and everyday networks (Dahlgren 2006).

Today people's inclusion of a media platform in their media repertoire depends more than ever on their economic resources. Although some media are 'free', the use of others depends on *price* and affordability – not least the price of the technical devices and subscriptions to attractive media services. Price may thus weigh heavily in an individual's or family's worthwhileness calculation.

Participation has become an inherent part of today's media practices, encompassing interactive activities such as participation in TV programs on a second screen, the creation of public playlists on Spotify, and the sharing/liking/tagging/etc. interactions on social media about everything from political issues to personal trivia. For some audience members such participatory affordances are decisive when determining the worthwhileness of a media platform.

Finally, the sheer *technological appeal* of a media device or platform can play an important role in the worthwhileness calculation. Although we tend to associate "technological" appeal with the digital realm, such as the fascination of a new smartphone, the user-friendliness of an app, or the challenge of controlling social media algorithms (Mathieu and Pavlickova 2017), this worthwhileness factor also includes other forms of materiality, such as the attractiveness of a small-page newspaper on the commuter train, the pleasurable feel of the glossy pages of a printed magazine, and the multi-functionality of a TV remote control.

The worthwhileness framework, as mentioned above, can be used as an inspirational recipe for reception analysis of audiences' media repertoires, in the loose sense

of serving as a back-curtain for framing the researcher's knowledge interest, or as a systematic, yet open matrix for conducting interviews and analyzing interview data. Swart et al. (2016) followed the latter procedure in their study of news repertoires, finding that time, situational fit, and normative pressure were especially helpful in understanding how people made sense of their news repertoires. For instance, faced with the paradox that "news users do not always use what they prefer, nor always prefer what they use" (Swart et al. 2016: 14), "situational fit" (convenience) served as an explanatory reason why people sometimes spent a considerable amount of time on news media whose value in terms of other worthwhileness factors was low.

4.2 Dimensions of the media text/reader encounter as a guide to the analysis of reception as reading

The classical framework of media reception as defined by Stuart Hall's encoding/decoding model was one-dimensional. The key, and only, interest lay in finding out to what extent audience readings of hegemonic media texts were "dominant," "negotiated," or "oppositional." The dimension along which reception analysis was conducted was thus an ideological dimension, concerned with how mainstream media dominated the political consciousness of working people. Although some early critics recognized that there was more to media reception than ideology (Morley 1981; Wren-Lewis 1981), most reception scholars found that the three reading types were good enough as a convenient shorthand for the variation in audience readings. Later, though, several attempts were made to set up a more multidimensional theoretical framework for understanding the complexity of the media text/reader encounter (Schrøder 2000; Michelle 2007).

Schrøder's multi-dimensional model takes its point of departure in the fact that any reception analysis will always be anchored in a specific focus, to do with the subject matter of the media content, in politics, ethnic identities, gender portrayals, sport, the environment, etc. But in addition to these focal sociocultural themes, there are aspects of media reception which are always relevant to explore. These aspects can be seen as the constituents of a general theory of audiences' textual reception, with five dimensions.¹

¹ In its original version, the model had six dimensions (Schrøder 2000). A few years later Schrøder revised the model and removed the dimension labeled "Evaluation", due to the fact that this dimension could not be seen as a proper dimension of the audience's reception of a media texts, but was rather *the researcher's* evaluation of the relative political progressiveness or regressiveness of the audience readings (as analyzed with the other five dimensions) (Schrøder 2003).

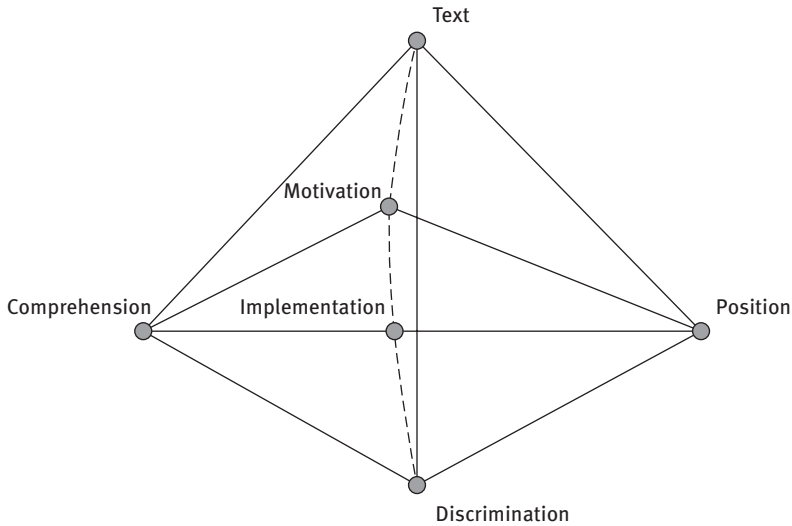


Figure 1: The multi-dimensional model of audience reception (Schröder 2003).

As was the case with the worthwhileness model (above), the multidimensional model may serve a dual purpose. The researcher may build the dimensions into the interview guide to be followed during the fieldwork phase, and they can also be used to structure the analysis of the interview transcripts, alongside the thematic issues. The five dimensions can be briefly described in the following manner:

Motivation has to do with what draws someone to pay attention to the media text. Motivation can be triggered, for instance, by seeing the trailer of a new movie; by coming across an advertisement for a new tv serial as part of television flow or on the page of an online news media; by reading a headline on a newspaper front page; or by listening to friends mentioning a media phenomenon. This way people may experience a relation of interest and relevance, a trigger of memories, or a sense of identification with the protagonist. In such cases the motivation may have to do with aspects of the media text itself; in other cases the motivation may lie in the situational surroundings, such as spending an evening in the cinema with a group of friends, where the specific choice of which film to see is of little importance.

Comprehension is the process of reading the verbal and visual signs of the media text, producing one's understanding of what the media text means at the denotative as well as connotative levels. The researcher's interest may lie in establishing the extent to which an audience member's reading deviates from the sender's intended meaning (for instance in the case of a health campaign), or the extent to which audiences with different social and cultural backgrounds comprehend the media text differently.

Discrimination should be seen as a dimension of media literacy: it has to do with the audience members' aesthetic awareness of the media texts and their critical distance to its mode of communication. Typically this can take the form of a "genre awareness," as when a TV evening news story is evaluated critically as being so trivial that it should rather belong in a breakfast TV slot, or when the content or form of a Facebook posting is judged inappropriate according to social media genre conventions.

Position designates the audience's like or dislike, acceptance or rejection of the media text, according to a range of parameters. This verdict is often based on properties stemming from the other dimensions: finding a serial character unrealistic or unsympathetic, reading a campaign as condescending, finding the genre signals contradictory, etc. Like/dislike may target the whole media product, or be confined to parts thereof.

Implementation has to do with whether one can use the media experience for something in daily life, i.e. whether the media experience has consequences for one's everyday life. This may be in the form of direct consequences, as in changing one's behavior as a result of exposure to a health campaign, or more indirectly in the form of influencing one's knowledge or opinion about a social group or a political leader – or just as something that can be stored as a useful conversational topic to be activated the next day.

The multi-dimensional model should be seen, like the worthwhileness model, as a heuristic tool that can be applied to build more composite knowledge about a media experience. It should be used flexibly and irreverently, in the sense that the analyst using it is free to delete dimensions that seem irrelevant in a given context of study. For instance, "motivation" may be neutralized if the reception study investigates a media text which audiences have not actively chosen to expose themselves to. Similarly, two dimensions may be merged if the study seems to require it, for instance if one's motivation is closely tied to the ways in which the media experience can, or cannot, be implemented for practical action.

The model has been applied widely for reception-analytical fieldwork. One example is Randi Marselis's (2016) study of online discussions about a controversial drama-documentary film about a 1977 train hijacking by Dutch-Moluccans. The online discussions occurred on a Dutch chat forum, where "the website of the broadcaster served as a forum for intense discussions about how to remember these traumatic historical events" (203). As Marselis did not herself take part in the online discussions, and could therefore not ask probing questions, she could only analyze the experiences which the debaters verbalized spontaneously. Since they only rarely mentioned aesthetic aspects of the drama-documentary, Marselis decided to not include "discrimination" in her analysis. The analysis did, however, benefit from analyzing the interplay among the other dimensions, finding for instance that "participating in a deliberative web debate about a memory text could in itself be seen as an example

of the dimension of Implementation, whereby the participants engaged in memory politics” (210).

The multi-dimensional model was developed around the turn of the millennium, that is, at a time when the interactive potential of digital media was only just beginning to be recognized, and before participatory social media had appeared on the media scene. For this reason, the dimensions are geared to grasp the interactive and participatory aspects of media experiences only with some difficulty. In order to be adequate as a heuristic model for the analysis of participatory media experiences, therefore, the model can be extended with the additional independent dimension of “participation.” This additional dimension will help guide the analyst towards understanding, for instance, audience meanings that spring from people’s interaction on a second screen while watching a TV program; sharing a meme on social media with friends; participating in a shitstorm against corporate malpractice on a social media platform; or the wide range of participatory practices that create the phenomena of “produsage” and “spreadable media” (Jenkins et al. 2013).

5 Beyond qualitative interviews: Mixed-method reception research

The contemporary definition of reception research (see above) allows us to classify something as reception research irrespective of methodological approach. This is a change from the early days of reception research, when the commitment to qualitative research methods was close to hegemonic in the reception research community.

We still find reception studies which rely solely on qualitative interviews, individual or focus-group based. This was the case with Mathieu and Pavlickova’s (2017) study of users’ reception of their Facebook newsfeed, which relied on individual qualitative interviews supplemented with qualitative think-aloud reports while touring their newsfeed (see the beginning of this chapter). But in a sense, mixed-methods research designs can be said to have become the new normal in audience reception research. This methodological pluralism started out as the methodological duality of combining qualitative and quantitative methods. For instance, Klaus Bruhn Jensen and his colleagues (1994) developed a typology of television viewers through individual qualitative interviews, going on to measure their occurrence on a national scale with a representative survey. Livingstone and Lunt (1994) used focus groups to examine the democratic relevance of viewers’ experience of TV studio debate programs, adding a quantitative survey to generalize their findings across the whole population (Livingstone, Wober and Lunt 1994). Basing their research design on a logic of complementarity (Jensen 2012), Jakob Linaa Jensen and Anne Scott Sørensen (2014) analyzed people’s uses and understandings of social media platforms with

a triadic design encompassing an online survey, focus groups, and a verbal/visual content analysis of users' Facebook newsfeeds. They thus brought reception analysis back to the early days of "audience-cum content" analysis, with the difference that the social media content analyzed alongside audience experiences was not just the output of institutional mass media, but had been co-produced by the participants and other users.

These examples of combining what you might call traditional methods typically use a sequential mixed-methods design, where the methods are applied one after the other. Other researchers have been experimenting with integrated mixed-methods (Greene 2007), adopting a Q-methodological approach in which a qualitative interview about news preferences or film experiences ends with participants doing a card sort. This enables the researcher to run a factor analysis of the participant's card configurations that produces analytical patterns across all participants, such as audience news repertoires (Swart et al. 2016) or film experience types (Davis et al. 2016).

For some time, reception researchers have also begun to take advantage of the fact that in the age of datafication, online digital communication inevitably leaves traces, or digital footprints. These can be registered by, for instance, mobile phones as a technique of virtual shadowing that provides data for tracking and accurately measuring audience practices without the bias inherent in self-report methods (Webster 2014). However, while the datafied tracking is accurate, it is quite another matter to "collect reliable information about the multiply complex sense-making reflections that accompany and shape these kinds of media use" (Schröder 2016: 7).

Fully recognizing these limitations to capturing the context around media audiences, Anne Mette Thorhauge and Stine Lomborg (2016) analyzed the use of smartphones as a cross-media experience device, using two kinds of data collection from users' smartphones: *automated* data collection, where built-in software features were used unobtrusively to create a log file with relevant geo-locational data; and *manual* data collection, where smartphones were used to have participants take photos and screen dumps every time they used the phone. Since the log data "provide no insight into the social settings and the meanings of relationships enacted through the smartphone" (Thorhauge and Lomborg 2016: 74), their analysis relied substantially on qualitative interviews "in order to re-embed the log data in their original contexts (...), and on this basis to identify relevant practices of cross-media communication from the user's perspective" (Thorhauge and Lomborg 2016: 76). Among their findings was a typology that divided smartphone uses into an "in-between" activity; smartphone use as a primary versus secondary activity; and "data voids" showing when the smartphone is deliberately not used.

While the collection and analysis of digital traces can thus be a valuable source of knowledge about cross-media use, there is general agreement among reception researchers that the challenging question remains "how can this data be related

to a context so that one is able to analyze it in a meaningful way?” (Breiter & Hepp 2017: 388).

A final glance in the reception analytical toolbox may alert us to the opportunities offered by the netnographic method, which analyzes the digital traces in their textual form, as they appear as a conversational string in the social media feed (Kozinets 2010). With this method, the researchers can analyze data about reception processes which they *find* in chatrooms or on social media (data found), where audiences are discussing their media experiences spontaneously (for a pioneering example, see Baym 2000). In other words, this approach avoids the inevitable element of artificiality of data collection organized as a research encounter on the initiative of the researcher (data made). Above we saw how this method was applied by Marselis (2016), who collected 363 comments about a controversial documentary on the broadcaster’s website, recognizing that such studies inevitably suffer from the limitation of only being able to analyze that which the participants spontaneously decide to talk about. With a similar design, Todd Graham and Auli Harju studied whether and how trivial reality programs like *Big Brother* and *Wife Swap* might serve for their audiences as a vehicle of civic agency (Graham and Harju 2011).

6 Epilogue

Audience reception research started in the 1980s as a mono-methodological enterprise in which audiences’ sense-making practices in the encounter with factual and fictional television programs was studied through qualitative interviews, conducted with individuals or groups. Since the 1990s, the methodological toolbox has gradually widened, first with the inclusion of standard quantitative measurement as an auxiliary extension of the primary qualitative mindset, and more recently with the inclusion of data which registers complex forms of digital traces of audience practices, in conjunction with qualitative methods for contextualizing the behavioral findings.

Theoretically the scope has developed from reliance on a semiotic understanding of the text/audience encounter in specific situational contexts, to also include a sociological understanding of how audiences make sense of their wider navigational and participatory practices in the mediatised cross-media landscape.

The greatest challenge for reception research consists in the development of different complementary mixes of qualitative, quantitative, and datafied methods of inquiry, in order to continue the original reception-analytical knowledge interest: to better understand the ways in which socially and culturally situated humans make sense of their lives with media. Conceivably the label “reception research” will not continue to be the most appropriate name for this kind of research.

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Jill A. Edy

8 Content Creation

Abstract: Theories about the creation of media content begin with the assumption that mediated reality is never an exact match for reality, a perspective that directs attention to the choices made about how to represent the social world in media content. Generally speaking, these theories emphasize one or more of four key components influencing the choices made by content producers: the technology available to create content, the social practices that govern content creation, the culture in which the content is created, and the economic and regulatory structures shaping content creation. Change over time or cross-cultural difference on one or more of these dimensions can shed light on the way it influences media content production. Studies of the content produced by journalism are also informative because a social function of news is to portray social reality. Gaps between events and their depiction in news can reveal the forces that shape media content, such as technical limitations, work routines, news values, and commercial pressures. While some theories pragmatically depict the confluence of social forces that shape media content, others are grounded in the critical tradition, emphasizing the ways that media content derives from and sustains economic and social power structures.

Keywords: commercial media, cultural hegemony, gatekeeping, interpretive community, media sociology, mediated collective memory, new institutionalism, objectivity, political economy of media, public service media

Theories about the creation of media content do not typically delve into the psychology of particular content creators or even into the psychology of content creators in general. Instead, they focus on the resources available for making media content, the incentives and disincentives for creating content, and the cultural environment in which content is created. They also begin with the assumption that mediated reality is never an exact match for reality. This perspective, known as *postmodernism*, directs attention to the choices made about how to represent the social world in media content.

Because the gap between reality as it is and reality as it is represented is most apparent in media content whose main purpose is to depict social reality, there is a good deal of research and theorizing about the creation of news content. It is important to understand that this gap does not denote “fake news.” Rather, it takes into consideration that the infinite complexity of social reality cannot be reproduced in media content. Of the billions of events that take place every day, only a few can be presented in news. Countless public problems and specific events vie for attention, and it is virtually impossible to “objectively” say which are the most important. Still, media content producers must make choices about which events and issues to represent in the news. Once they do make those choices, more choices await about how to

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present those events and issues. Where do you put the camera? To whom do you turn as sources of information? How much time do you spend producing the content? How long can you wait before making the content available to an audience? Although these choice-making processes are particularly evident when we have a specific feature of social reality with which to compare them, they are not dissimilar to the choice-making processes facing content creators across the media spectrum. Moreover, fictional film and television are also distinctively different from the social environments in which they are consumed. In the U.S., media depictions of the social world are typically too White, too thin, too wealthy, and much too violent. Clearly, choices are made here as well. What are the social forces that shape these choices?

Generally speaking, theories of media content creation emphasize one or more of four key components that influence the choices made by content producers: the technology available to create content, the social practices that govern content creation, the culture in which the content is created, and the economic and regulatory structures shaping content creation. It is often change over time or cross-cultural difference on one or more of these dimensions that sheds light on the way it influences the choices of content producers. Let us consider each in turn.

1 Technology

In much of the contemporary literature, the influences of technologies upon media content are described in terms of *affordances* (what the technology makes possible) and *constraints* (what the technology makes difficult or impossible). Much of the work in this area explores the affordances and constraints of particular technologies and so becomes dated at the point when those technologies are supplanted by newer technologies. A more durable way of thinking about the impact of technology upon media content may be by articulating the various pathways by which technology influences content.

First, technology can make new kinds of content available. Some scholars have suggested that the expense and unreliability of the telegraph during the U.S. Civil War is responsible for modern journalism's terse writing style and "inverted pyramid" format. The expense of sending telegraphed messages and the fear the technology would break down meant information was sent as briefly as possible and in descending order of importance. During World War I, motion picture cameras were large, bulky, and required tripods, so combat footage was difficult to obtain and of poor quality. By the Iraq War, these cameras were small and light enough to allow journalists to be embedded with troops in the field, and satellites existed to transmit live reports from the field. The advent of easy-to-use satellite technology and small cameras also made it easier to cover news in the developing world (Livingston & Van Belle 2005). Barbie Zelizer (1992) noted that at the time of President John Kennedy's

assassination in 1963, the technology available to television news media meant that most pictures of breaking news events were pictures of the aftermath of the event rather than of the event itself. The ubiquity of video technologies on cell phones means that today, news commonly features amateur video of the event itself along with professionally shot video of the aftermath. Sometimes, however, newer technologies constrain content production. For instance, Neil Postman (1985) argued that the more simplified discursive forms of television made it hard for Americans to grapple with complex issues and problems. A good deal of recent research and discussion has considered what has been termed *computational journalism*, particularly the role of algorithms (Ananny & Crawford 2016; Flew et. al. 2012; van Dalen 2012). Algorithms are a technology that can be used to automate the production of news content and personalize the delivery of that content to individual audience members. Many are proprietary, their workings invisible to both critics and the public.

Second, technology can make media content available to new audiences whose tastes and interests then shape the content created. The development of steam-driven printing presses in the 1830s made newspapers available to new audiences of working class people. Human interest and crime stories were published to appeal to these new audiences. The mass audiences generated by broadcast television, together with the small number of broadcast outlets the technology permitted, encouraged the production of content with wide appeal, including politically neutral television news. When cable technology enabled content providers to parse audiences into smaller groups with shared interests, more specialized content was created, including partisan news. The development of global distribution systems for media content, particularly films, has encouraged the creation of subject matter that lacks cultural specificity and emphasizes action over dialogue, characteristics that give the content appeal to audiences from diverse cultures speaking many languages around the world.

Third, technology can affect media content by changing economic incentives and the competitive relationships between content producers. Some would argue that changes in the nature of the audience impact media content only indirectly by changing the economic incentives for amassing and providing content to audiences. Competitive structures are altered as well. As television sets became common items in U.S. households, radio programmers more or less ceased production of radio plays, dramas, and comedies in favor of hosted programs of recorded music. Competition from television also impacted film content. In the 1950s and early '60s, color films, widescreen formats, and 3D films helped distinguish theatrical movies from television shows, and the content produced commonly showed the format to best advantage. Colorful movie musicals, panoramic westerns, and horror movies where the monsters jumped off the screen were produced to compete with home entertainment on television. Competition from electronic media altered the content of print newspapers. Before the advent of radio, newspapers printed "extra editions" for important news that happened after the regular editions had been printed. Radio news, and later television news and the internet, took over as the media that reported on events

as they occurred. Print news media began producing content that offered context and perspective on the day's events in longer forms than could be supported by radio or television news. Stories became longer and more interpretive over the course of the twentieth century (Barnhurst & Mutz 1997). However, recent research suggests that as newspapers moved online, frequent updates to breaking news stories posted on their websites have become the norm as the technological differences between "print" and "electronic" media all but vanished (Anderson 2013; Usher 2014). Dan Hallin (1992) argued that when news was forced to compete with entertainment television, its content changed in favor of stories with better production values and greater audience appeal, which both democratized and trivialized the news agenda.

Fourth, technology can change the relationships between social actors in ways that impact the production of content. Many technological changes have made it more difficult for governments to censor or manage media content. Chinese journalists have developed techniques for avoiding online censors (Xu 2015), and more user-centered online journalism has opened space for Chinese newspapers to be more critical of the government, though that criticism is limited (Yuan 2013). Users of Weibo, the Chinese microblogging site similar to Twitter, developed a clever meme of a giant yellow duck to avoid government censorship of their remembrance of the Tiananmen Square pro-democracy demonstrations (Ibrahim 2015). In the U.S., technologies have made it harder for government to manage news media. More than 25 years ago, an amateur videographer filmed Los Angeles police officers beating Rodney King, and the video was repeatedly shown on national television. Whereas typically public officials manage the news, here they were forced to respond to compelling visual evidence of misconduct. Since then, not only have the means of production spread; the line between content producers and audiences has faded. Technology such as YouTube, Instagram, and Twitter make content distribution possible for virtually anyone, undercutting the role of professional content producers.

In the literature on new communication technologies, more attention has been paid to the emancipatory qualities of online media, but not all of these possibilities are realized or prosocial. Although newer technologies complicate government's ability to manage the news, the U.S. news media still commonly toe the government line (Livingston & Bennett 2003). Moreover, new technology gives political leaders the ability to communicate directly through these same technologies with audiences large enough to be politically meaningful without having their messages filtered by journalists or other media professionals, which can foster demagoguery. Clemencia Rodriguez (2016) cautions that newer forms of media are rented rather than bought. Once broadcast technologies are purchased, be they transmitters or receivers, the technologies are no longer tied to any government or corporate structure. Internet and cell phone technologies, by contrast, require continuing access to a network to function.

Recent research has explored how technology impacts media content through its interaction with time. Technologies have made live coverage of events possible, which differs substantively from packaged news reports or documentaries (Schlesinger

et. al. 1983). Competition with social media platforms can undermine fact checking processes in traditional news organizations resulting in inaccurate reporting, and computational algorithms govern when websites are updated (Ananny 2016). Nikki Usher's (2014) ethnography of the *New York Times* illuminates the ways the affordances of digital technologies are altering news values, including timeliness and interactivity, and thus the content of news itself. Her work spans theories of content creation grounded in technological affordances and those grounded in practice.

2 Practice

There is a substantial body of scholarship on how the work practices of media professionals shape the content created. The literature on journalism is particularly rich. Much of this work, particularly when it is grounded in ethnographic study of news processes, is grouped under the heading *media sociology*.

Gaye Tuchman's newsroom ethnographies brought concepts from the sociological study of work to journalism practice. She described how journalists translated the flow of myriad events each day into a news product, likening them to emergency services workers who never knew quite what each day would bring but had a very limited time frame in which to respond. News workers, she observed, were engaged in processes of "routinizing the unexpected" (1973: 110). Like Tuchman (1978), Herbert Gans (1979), Mark Fishman (1980), and Peter Golding and Phillip Elliott (1979) spent time in newsrooms to understand how news routines, news judgment, and newsgathering practices shaped news content. These early sociological studies were important for illuminating the relationship between how work was organized and the work product that was produced. They also informed scholars' understanding of two key aspects of that work: gatekeeping and objectivity.

Gatekeeping is the collective term for the decision-making processes by which some aspects of social reality are publicized in the media while others are not. During the broadcast era, journalists were perceived as important gatekeepers, although not the only ones. Other social organizations, especially government, also filtered information so that some of it became public while some of it did not. The organizational practice of dividing news reporting into "beats" made some aspects of social reality more visible to reporters than others. Events that occur in places where journalists are permanently assigned to work, such as police stations, courthouses, city hall, state government, and the White House, are more likely to appear in news than events occurring elsewhere. Other scholars, whose work was grounded in analysis of the news product itself, attempted to define the news values that shaped which events and issues made the news. Multiple lists of news values resulted (Galtung & Ruge 1965; Harcup & O'Neill 2001; O'Neill & Harcup 2009), but lists typically include elements such as timeliness, proximity, elite involvement, and conflict.

Recent research has questioned whether the news media still have gatekeeping power in the contemporary environment of personalized and networked media. Bruce Williams and Michael Delli Carpini's (2000) study of the Clinton-Lewinsky scandal suggests that as far back as the late 1990s, news organizations experienced difficulties in managing the flow of current affairs information to the public. Tabloids like the *National Enquirer* and a website, the Drudge Report, broke news about the scandal, which the traditional news media later, and reluctantly, republished. Andrew Chadwick's (2013) "live ethnography" of Britain's "Bullygate" scandal suggests that processes of sorting through information now occur publicly as both journalists and citizens have access to media sources that make information public, whether they be hackers on Wikileaks or whistleblowers on Twitter. However, it is important to keep these findings in perspective. Research also shows that a great deal of the current affairs information that circulates online originates in traditional news media (Leccese 2009; Pew Research Center 2010).

Tuchman (1972) examined not just the content but the structure of news. She observed that *objectivity* is defined by a set of practices, rather than being a characteristic of the content itself. Other early media sociologists were also interested in the ways that media practices might produce biased content (Fishman 1980; Golding & Elliott 1979). Subsequent research on *ideological bias* in news content has been fraught. Scholars taking their cue from traditional media sociology argue over whether the liberal partisan leanings of journalists (Weaver et al. 2007) overrides the conservative leanings of news media owners and corporate advertisers (see Shoemaker & Reese 1996). Some studies of news content itself find liberal bias (Groeling 2008; Groseclose & Milyo 2005) and some find conservative bias (Aday 2010; Aday, Livingston & Hebert 2005). More useful insights typically come from studies that examine how the news media's routines and practices interact with those of the government to produce content.

Most studies of the interface between *news and government* demonstrate that government officials exert a good deal of influence over news content. An early study of news practices demonstrated that the vast majority of journalists' sources were affiliated with government (Sigal 1973). Tim Cook (1998) found that beat reporters came to adopt the perspectives of the governing institution they were assigned to cover, which in turn shaped their reporting. Oscar Gandy (1982) coined the term *information subsidy* to describe information and other perquisites provided to news organizations by social actors seeking access to the news. Government provides information subsidies in the form of raw information (such as unemployment rates), dedicated press officers, news releases, official schedules, workspace in government buildings, and more. One of the most influential theories about how government influences news content is Lance Bennett's *indexing theory* (1990). Bennett argues, "[M]ass media news professionals, from the boardroom to the beat, tend to 'index' the range of voices and viewpoints in both news and editorials according to the range of views expressed in mainstream government debate about a given topic" (106). Bennett and

his colleagues (Bennett, Lawrence & Livingston 2007) argue that because news media are so dependent upon government sources, only when members of Congress publicly disagree does journalism provide citizens competing perspectives on the issues. These theories do not posit ideological bias in the news but rather suggest the news tends to be pro-government regardless of the ideological tilt of that government.

Another widely regarded theory is Robert Entman's (2004) *cascading activation model* of news frames. Entman's model suggests a complex and dynamic flow of influence in which executive branch political actors have the most sway over news content and thus over public opinion but in which pushback from other actors can still affect content to a greater or (typically) lesser degree depending upon the circumstances. Gadi Wolfsfeld (1997) offers a similarly dynamic model for understanding the relative power of government and anti-government forces to shape news coverage under conditions of *political conflict*. Others have analyzed how the interface between *news media and social movements* shapes the content of news about the movement. Rens Vliegenthart and Stefaan Walgrave (2012) offer a recent overview of scholarship in this area.

Scholarship on journalism practices also considers how journalists come to share an understanding of what constitutes news and how social reality should be represented. Journalism is a vocation in which occupational socialization is especially important. Like most workers in media industries, journalists are professionalized but are not professionals in the narrow sense of the term. Unlike lawyers or doctors or teachers, there is no credentialing or licensing process for journalists, and while journalism schools do exist to teach students practices and professional norms, not all working journalists have journalism degrees. New institutionalist news scholars (e.g. Cook 1998; Sparrow 1999; Ryfe 2006b) seek to explain how similar news content is generated across diverse news organizations. *New institutionalism* conceptualizes institutions as “mediat[ing] the impact of macro-level forces on micro-level action” (Ryfe 2006a: 137), a perspective that brings together conceptualizations of institutions as organizations and of institutions as rule-governed practices. For example, Cook (1998) and David Ryfe (2006a) consider how both journalism and journalists are created by news rules: someone who follows the rules and norms of journalistic practice is a journalist; the product of those practices is journalism.

Barbie Zelizer (1993) borrowed Stanley Fish's (1980) term *interpretive community* to describe how journalists come to a shared understanding of events in the process of telling and retelling them. Larry Sabato (1991) uses the less flattering term *feeding frenzy* to refer to a similar phenomenon in which journalists come to share an understanding of which events are worthy of attention, in this case government scandals. Other scholars have examined how journalism sanctions its members for generating content that breaks the unwritten rules of their profession, a phenomenon known as *paradigm repair* (Bennett, Gressett & Haltom 1985; Berkowitz 2001; Hindman 2005; McCoy 2001). Oren Meyers (2007) describes how journalists articulate their professional self-perceptions as they evaluate the work of their peers. Some scholars have

attempted to quantify content similarities across news media, a phenomenon known as *intermedia agenda setting*, with mixed results (Boyle 2001; Heim 2013; Lee 2007; Lim 2006; Lopez-Escobar et al. 1998; Meraz 2011; Vliegenthart & Walgrave 2008). Historically, print media have been thought to set the agenda for electronic media, but this pattern of influence may have been undermined by the near-continuous news cycle of the contemporary media system.

Changes in the media environment have threatened journalism's institutional authority, raising questions about how journalism distinguishes itself and the content it provides from the information provided by competing social organizations and individuals. Matt Carlson (2017) argues that *journalistic authority* is not a characteristic of the press but rather a description of the relationship between the press and the public. Jill Edy and her colleagues examine how news media restructure and reinterpret content made public elsewhere and assert the necessity of journalism for democratic processes (Edy & Snidow 2011; Edy, Snidow & Rozzell 2016). Studies of *boundary maintenance* document processes by which journalism defines itself in contrast to other "not journalism" forms such as entertainment media (Bishop 1999; Bishop 2004) or the internet (McCoy 2001).

Another body of scholarship focuses on the story forms which shape news content. Robert Entman's (1993) essay on media *framing* defines news frames as consisting of four elements: problem definition, causal agency, moral framework, and solution. Shanto Iyengar (1991) argues that there are two basic types of news frames: thematic frames, which focus on broad social trends, and episodic frames, which focus on specific events and individuals. Robert Darnton (1990) describes journalists working from a limited repertoire of story templates which he calls ur-stories. This stockpile of story forms enables journalists to quickly and efficiently translate social reality into realistic narrative. Jack Lule (2001) makes a similar argument, demonstrating that news stories commonly evoke mythical themes and construct archetypal characters.

Finally, the ethnographic approaches pioneered by early scholars of media sociology were largely abandoned for about thirty years, but a recent wave of ethnographic studies of contemporary newsrooms has examined how modern newspapers are adapting to new technologies, production practices, and economic realities (Anderson 2013; Ryfe 2012; Usher 2014).

3 Culture

Some studies on the content of media as it relates to culture simply document that the media do not portray reality as it is. More theoretically useful work considers what those mismatches indicate about the underlying culture. The relationship between culture and media content is typically conceptualized as a two-way street. Culture

affects media content, and media content affects culture. Although this chapter is focused on media content creation, most theories that consider the relationship between culture and media embrace the circularity of the relationship. Some are relatively pragmatic, drawing from Emile Durkheim's idea of structural *functionalism*: traditions and customs that are functional for the community are reproduced while those which have become less functional or non-functional are adapted. Some also employ Durkheim's ideas about *social rituals*. Others take a more critical view, drawing on Antonio Gramsci's conceptualization of *cultural hegemony*: the perspective and values of a dominant group come to be shared by the society as a whole and are only adapted at the margins when adaptation is needed to preserve the status of the dominant group. Some scholars in this tradition also draw upon the work of Michel Foucault, whose writings investigate how social norms and the power they give rise to are generated in the course of social interactions. Clear distinctions between pragmatic and critical scholars often do not hold up in practice, so it is better to think of a spectrum of perspectives running from relatively pragmatic to very critical rather than classifying scholarship as one or the other. For scholars in both traditions, the media are a means by which culture and its associated values are replicated or adapted.

For many, the link between communication and culture begins with the work of James Carey (1989) in his book of the same title. Carey distinguished between a *transmission model* and a *ritual model of communication*. A transmission model focuses on sending information from person to person and from place to place, emphasizing the expansion of a society in space. A ritual model focuses on how communication shapes relationships, emphasizing the extension of society in time. Carey argued, counterintuitively, that news serves a ritual function, its consistent structures reaffirming social connections. Every day there is news of government, crime, weather, and sport, presented in the same ritualized ways and in roughly the same order; only the details change. Daniel Dayan and Elihu Katz's (1994) work on media events as social rituals also assesses how mass media reaffirm and, very rarely, contribute to the adaptation of social values. They describe three kinds of *media rituals*: coronations are official rites of passage and commemoration such as inaugurations and funerals; contests are ritualized competitions that reaffirm existing rule structures such as election campaigns or Olympic sporting events; conquests are events in which cultural rules or norms are adapted as a result of charismatic leaders invoking cultural aspirations long repressed. The idea of mediated ritual can be traced back to Philip Elliott's path-breaking work on press rituals (1982), which described them as both upholding social authority and generating a sense of community.

Working in the critical tradition, Stuart Hall, often considered the founding scholar of the field of *cultural studies*, brought the cultural power of media vividly to life. His work with colleagues (Hall et. al. 1978) on newspaper reporting about crime and the police showed how particular ways of looking at the world became normalized and the ways that normalization served the interests of the powerful. In his most famous essay, Hall (1982) explicitly rejects the pragmatist view in laying out his own

agenda for critical research on the role of the media in cultural production. Scholars in this tradition also draw upon the works of Max Horkheimer and Theodore Adorno (1987) who critique the *culture industry* both for the content it produces and for the effects of that content on the public. Mass production of content (which they distinguish from mass culture) leads to homogeneity of content and undermines the production of high art, which stimulates the intellect, in favor of hegemonic representations of the cultural values of the dominant class. Murray Edelman (1988) explored how news content helped sustain existing power structures by creating spectacles and crises that made reassurances from powerful leaders seem necessary. In one of his more fascinating insights, he argued that political enemies were actually interdependent: the more fear one generated, the more support the other got. For example, Osama bin Laden's threats against the U.S. shored up support for George W. Bush among Americans while Bush's threats against Al Qaeda shored up support for bin Laden among anti-American groups.

Some studies of the role of culture in the production of media content emphasize the role of media in sustaining existing cultural perspectives and values. Shawn Parry-Giles (2014) shows how U.S. values and expectations about the role of women influenced news portrayals of Hillary Clinton throughout her career as a public figure. Robert Entman and Andrew Rojecki (2001) looked at how U.S. television portrays race relations, finding that television subtly supports the existing racial hierarchy and reinforces the social distance between Whites and Blacks. Other works consider how media content adapts to cultural change. Both Daniel Hallin (1992) and Geoffrey Baym (2010) describe how changes in American culture shaped news content. Hallin argues that the degree of social consensus during the New Deal and Cold War eras allowed journalists to assume an authoritative voice that they lost once that consensus broke down. Baym explores the evolution of journalism since this "modernist" period and how it has adapted to an era of postmodern cynicism, arguing that news no longer serves citizen interests as well as sophisticated political comedy does. Some scholars use media content as a kind of diagnostic tool for understanding the underlying values of a culture and how they have been reaffirmed or have evolved over time. Amanda Lotz (2006, 2014) has explored how changing (and unchanging) gender norms emerge in mediated portrayals of men and women on U.S. television. Darnton's (1990) ur-stories and Lule's (2001) mythic archetypes can also be seen as analyses of the role of culture in content creation, as can the development and evolution of news values.

Scholars who study mediated rituals sometimes depict the ongoing interactions between culture and media content. James Ettema and Theodore Glasser (1998) found that there is a cultural component to the way news functions in society. Investigative journalism is successful in holding an actor accountable when the moral code that actor violated is widely shared. If the moral code is in flux, the investigation commonly fails to generate accountability. Thus, investigative journalism can uphold an existing moral code, but usually cannot adapt it. Ettema's (1990) analysis of the

“Cokely affair” in Chicago reveals how media content interacted with other social processes, sometimes shaping them and sometimes shaped by them, to open a space for addressing incompatible social values. The concept of *mediatization* emphasizes a circular relationship between media content and culture in which the media’s role in cultural practices change those practices, which in turn has implications for media content as well (see Lilleker 2006). For example, media coverage of election rituals, such as campaigns, can alter the nature of those rituals, which influences the way they are covered (Mazzoleni & Schultz 1999).

In global contexts, a well known theory of the relationship between media and culture is *cultural imperialism*. In the media context, cultural imperialism refers to the production of media content in a more powerful country for consumption in a less powerful country. This practice, it has been argued, results in the dissemination of more powerful countries’ values internationally, and from a content creation perspective it suggests that media content reflects the values of some nations but not others. For example, when much of the news distributed internationally was generated by British or American news organizations, British and American views of global conflict and other international news events were promulgated in the developing world. U.S. media products have historically been distributed globally (Tunstall 1977). However, Jeremy Tunstall’s (2008) more recent work reveals a complex global environment in which many nations export media products and American moral authority is in decline. Today, population size is an important predictor of whether a society exports its media products and, by extension, its cultural perspective. Another, less optimistic, view of the global trade in media products would argue that media products intended for global distribution are stripped of their cultural content, resulting in vapid and violent media products being hyped across the globe. More recent theory has emphasized the *cosmopolitan* nature of media content (e.g. Jenkins 2006) in which cultural values and experiences are traded across the world in relatively egalitarian ways, although the western capitalist emphasis on consumerism remains a nagging element of this sharing.

One growing area of research on the interactions between media and culture explores mediated collective memory. Collective memory, sometimes referred to as public or social or cultural memory, refers to a community’s memory of its shared past. Media representations of the past offer an appealingly concrete way to see the social values and norms of a culture and to observe their adaptation. Since the past event does not change, changes in media depictions of it can be interpreted as indicators of changing cultural values and priorities. The repeated finding that collective memory is influenced by current social values is referred to as “presentism” (Halbwachs 1992). Mass media play a central role in Holocaust commemoration processes in Israel, both affirming and disseminating a shared sense of awe and reverence (Meyers, Neiger & Zandberg 2014). Jill Edy examines how controversial events become part of a shared cultural past as they are narrated and re-narrated in media against a moving backdrop of current events (2006) and illuminates how shared understandings of past

events inform journalistic storytelling about the present (Edy & Daradanova 2006). Barbie Zelizer (1998) argues that the mediated images of the Holocaust offered a way to bear witness to the past and became a cultural context influencing perceptions of subsequent atrocities. Keren Tenenboim-Weinblatt (2013) demonstrates that shared memory is used in media to articulate social norms and values and hold social actors accountable to those values.

4 Economics, politics, and political economy

Along with technology, practice, and culture, the economic and regulatory structures of a media system and the interaction of those structures influence the production of media content. Economic forces and regulatory regimes create incentives for producing different kinds of media content, which also means that changing the rules changes the content. Some researchers take a pragmatic approach to the impacts of economic rationality and regulatory regimes on content, viewing them as part of the social environment within which content is generated. Others, however, take a more critical view grounded in late-Marxist interpretations of social relationships that emphasize the power relationships inherent in economic and regulatory regimes. This approach is known by the shorthand label *political economy of media*.

One easy way to see how economic structures can influence content creation is to consider the differences between *commercial* and *public service media systems*. In an advertiser-driven commercial media system, a content producer profits by drawing an audience since advertisers pay the content producer for access to the audience. Audiences are valued for their size, but also for their composition: they may be more affluent and thus able to spend more on advertised products, or they may have distinctive characteristics that make them more likely to buy a particular product (Turow 1997). Content is then created with an eye to attracting the desired audience. In a public service media system, the government funds electronic media services, sometimes by charging a license fee to end users (the people with receivers, such as television sets) and sometimes from other revenue sources. In this system, audience size and composition are less important, and content serving the public interest, even if people do not watch, becomes more important. For example, non-commercial systems have been consistently shown to provide more public affairs information with greater depth than is provided in commercial systems (Benson, Powers & Neff 2017). Some have argued that because contemporary media technologies have placed the means of content production in the hands of average people, the economic incentive structures have substantially changed. However, James Webster (2014) argues that online content producers typically have the goal of gaining attention for their content, which involves assembling an audience for it, so the incentives which shape content production may not have changed all that much.

Another way in which economic incentives can affect content is through *production costs* and the way in which production must be financed. For example, film making tends to be a costly undertaking, and virtually all the money must be spent before the content created produces any revenue. The notorious big-budget flop *Heaven's Gate*, produced in 1980, cost \$44 million to make and earned \$3.5 million at the box office. *Star Wars*, produced in 1977 for \$13 million, earned \$775 million at the box office. High costs and high risks make film producers risk averse, which helps explain their affection for sequels and stars and why the content of popular film tends to be homogenous. In contrast, the low costs associated with music production support a rich diversity of musical cultures across the world (McChesney 1999).

Regulatory structures can directly shape content as well. For example, many nations have standards of decency for broadcasters that limit what can be said or shown during particular hours of the day. Differences between the U.S. and Europe regarding freedom of speech and privacy rights produce differences in media content. The British government could ban television interviews with members of Sinn Fein, the political arm of the violent, paramilitary Irish Republican Army, even when those members were running for or serving in Parliament. A similar form of regulation in the U.S. almost certainly would have fallen foul of the First Amendment. The European Union, unlike the U.S., recognizes a right to be forgotten which provides for a legal right to have material removed from internet searches, though this regulation remains controversial. Current arguments about whether internet service providers must offer equal treatment to all content, also known as *net neutrality*, are grounded in expectations that the regulatory requirements will affect the kinds of content created and made available to the public.

The ways in which regulations are enforced add another dimension to the influence of regulation on media content. Where regulations are unclear and penalties are harsh, content producers may be reluctant to approach the boundaries those regulations establish. If content producers are not sure what constitutes defamation or indecency, they may be overly polite and proper. This reluctance may be enhanced if complex regulatory structures mean high legal fees are associated with defending oneself against accusations of misconduct. The current legal troubles of Wikileaks founder Julian Assange and National Security Agency leaker Edward Snowden for revealing classified information expose the blurry edge of First Amendment protections for government whistleblowers under U.S. law.

Economic and regulatory structures often interact to shape content because regulations commonly structure economic incentives. Robert McChesney's (1993) history of the birth of the U.S. Federal Communications Commission describes how the regulatory structures reshaped media ownership and media content. Among other things, the decision to grant licenses to broadcast on a particular frequency full-time undermined frequency-sharing arrangements that promoted non-English programming in cities with large immigrant populations. Patricia Aufderheide (1999) unpacks the implications of the 1996 Telecommunications Act, the first major overhaul of U.S.

media regulations since 1934, in light of the values it promotes and so, indirectly, of the content it is likely to foster. The 1996 Act equated consumer demand with public interest and enabled a great deal of industry consolidation, both of which have implications for content production. More broadly, regulatory agencies commonly establish rules for ownership of the means of distribution for messages and have oversight over some large mergers of media companies. To the extent that the diversity of voices in media affects the kinds of content available, these economic and regulatory interactions will affect content creation.

Perhaps the most influential work on how regulatory, economic, and political systems impact media content is Dan Hallin and Paolo Mancini's (2004) comparison of media systems across eighteen western democracies. They develop three models of media that describe systems in terms of the political, regulatory, and market structures of the system and the kinds of news content the system produces. Other scholars have both developed and critiqued the models as they have attempted to adapt them to changing media systems and apply them elsewhere in the world. More recently, Rodney Benson, Matthew Powers and Timothy Neff (2017) suggest several "best practices" among democracies with publicly funded media by studying the content created in twelve democracies with publicly funded media systems. In such systems, the rules governing the funding process are important for establishing the degree of independence media have from government. Benson and his associates argue dedicated fees used to fund media, charters that restrict government interference while demanding quality programming, and independent oversight commissions whose terms are not tied to those of government officials help promote quality content while maintaining media independence.

Some scholars who study the impact of economics and regulatory structures upon content creation emphasize the power inherent in these social relationships. Drawing upon the later works of Karl Marx, they theorize how economic relationships give rise to cultural products, a perspective known as *political economy of media*. Peter Golding and Graham Murdock (2000) offer an overview of this approach and distinguish it from cultural studies. In essence, political economy approaches focus on the structure of the media industry itself as the motive force behind media content while cultural studies approaches consider dominant social norms and values as an important influence on content production. One of the best-known theories of content creation in the political economy tradition is Edward Herman and Noam Chomsky's (1988) propaganda model of news. Herman and Chomsky posited five filters that shape U.S. news and make it complicit in supporting the existing power structure: news media are owned by major corporations; they rely on major corporations for advertising dollars; they depend upon government for information; they fear organized campaigns from displeased business organizations, or "flak"; and they fuel public fears of real or imagined threats such as communism or terrorism. McChesney's work (e.g. 1993, 1999) also fits into the political economy tradition: much of his work critiques the corporatization of media content and the

regulatory structures that promote it. Some scholars interested in cultural imperialism approach it from a political economy perspective, focusing on the economic and regulatory environments that give rise to it. These scholars argue that the American global hegemony has been supplanted by a hegemony of multinational corporations. For most scholars in this tradition, economic power trumps political power, and regulatory forces are influenced by powerful corporations to serve their interests rather than the public's.

5 Conclusions

Although this chapter has considered four key dimensions of content creation separately, it is not hard to imagine these components interacting to influence the production of media content. Evolving cultural standards of decency may give rise to new regulations which in turn make possible new kinds of content. Government regulations on a particular technology may encourage the development of alternative technologies which in turn offer new possibilities for content production. New cultural expectations about the social role of media organizations may give rise to new practices that result in different content.

Since all the components that influence media content are themselves dynamic, one would expect that theories will evolve and require updating as both the media and the social world change over time. Theories explaining the influence of particular technologies, practices, or regulations on content creation may go out of date relatively quickly as those characteristics of the environment change. Theories that explicate broader patterns of influence generated by lasting features of the environment such as the uneven distribution of social power, the ways in which social norms are enforced or adapted, or the patterns by which technological innovations spread through a system, may offer more lasting understanding of the factors that influence content creation. Even these, however, will need to be interposed with specific features of the media and social environment ascendant at a given moment in time and may need to be adapted in the face of innovation. Stay tuned.

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Carlos A. Scolari

9 Media Evolution

Abstract: Since the emergence of the World Wide Web the media ecology has gone through deep transformations. While the broadcasting paradigm was displaced from its hegemonic position by the networking paradigm, the “old media species” are constrained to compete with the “new” ones and must adapt to the new conditions of the media ecology. Never in the long history of *Homo sapiens* has our social-technological network gone through such an accelerated and unpredictable shift. In this context the chapter reflects on the possibilities of a new discipline – media evolution – in grade of dealing with past, contemporary, and future transformations of the media ecology. After introducing how the Darwinian model was applied in the analysis of technology evolution, the chapter presents a general overview of approaches that should be part of any theoretical conversation about media evolution: Levinson’s anthropotropic theory of media mutations, Logan’s reflections of media evolution from the perspective of language, complexity, and emergent phenomena, and Manovich’s contributions around the computer metamedium and its hybridizations. The chapter concludes with a map of interlocutors for the construction of a media evolution theory and presents a first list of possible methodologies to apply in this emergent field.

Keywords: media evolution, media ecology, anthropotropic theory, media theories, actor-network theory, social construction of technology, cultural analytics, distant reading

Since the emergence of the World Wide Web in the early 1990s the media ecology has gone through deep transformations. In a few words, the old broadcasting paradigm was displaced from its hegemonic position by a new paradigm based on networking. The “old media species” are constrained to compete with the “new” ones and must adapt to the new conditions if they want to survive (Scolari 2013).¹ At the same time, the burst of new devices and media production / consumption experiences introduced a dynamics never seen in media environments. Never in the long history of *Homo sapiens* has our social-technological network gone through such an accelerated and unpredictable paradigm shift.

Many scholars are struggling to contextualize and explain the deep transformation of the entire media ecosystem. Media history, a consolidated discipline and research field, deals with the past transformations of the media and, in general,

¹ According to Natale “it becomes increasingly difficult to establish if a media artifact is ‘new’ or ‘old.’ Media operate in circuits of value where their attributes and qualities, including newness and oldness, are constantly renegotiated” (Natale 2016: 588).

proposes lineal narratives based on sequences of media (i.e. Briggs & Burke 2009). Other approaches, like media archaeology (Huhtamo & Parikka 2011; Parikka 2012), refuse that kind of historical storytelling and focus instead, as Zielinski put it, on the “deep time of media” (2008).

Do we need an integrated theory of media evolution to explain past, contemporary, and future changes to the media ecosystem? If the answer is yes, then we can start thinking in media evolution terms. Many scholars are using the metaphor of media evolution in their theoretical and analytical discourses (i.e. Lehman-Wilzig & Cohen-Avigdor 2004; Stöber 2004; Neuman 2010; van Dijck 2013; Olesen 2016). This chapter pretends to contribute to the construction of a media evolution theory that goes beyond the application of Darwinian metaphors.

Let’s think about a theory of media evolution in conversational terms. Who are the main theoretical interlocutors of media evolution? What can it talk about with related disciplines like media history or media archaeology? Can this new theory recover concepts, categories, or models from them? Should media evolution open a conversation with other approaches like the Social Construction of Technology (Bijker, Hughes & Pinch 1987), the Actor-Network Theory (Latour 2005), or Social-Ecological Systems (Glaser et al. 2012)? What about media ecology? Media ecology, born in the 1960s from the contributions of McLuhan (2003) and Postman (1998, 2000), has included a reflection on the evolution of media. Researchers like Levinson (1979, 1997, 1999) and Logan (2004a, 2004b, 2007) have developed useful contributions for understanding media ecosystem transformation. On the other side, any scientific reflection on media evolution should include the works of media ecology pioneers like Mumford (1934) and Innis (1950, 2003 [1951]).

Clearly, the network of possible interlocutors is broad. The main objective of this chapter is to reflect on the possibilities of a new discipline – media evolution – in grade of dealing with past, contemporary, and future transformations of the media ecology. The first section of the chapter introduces a conception of “theories as conversations” and focuses on the theory construction process. If media are technological tools, then we must start with a general overview of technology evolution theories before focusing on media evolution. Thus, the second section introduces the Darwinian evolutionary model and its applications in social sciences, with a special interest in the evolution of technologies. As it is almost impossible to describe all of the scholars applying an evolutionary metaphor to media change, the third section just introduces a basic selection of approaches that should be part of any theoretical conversation about media evolution: Paul Levinson’s anthropotropic theory of media mutations, Robert K. Logan’s reflections of media evolution from the perspective of language, complexity, and emergent phenomena, and Lev Manovich’s contributions around the computer metamedium and its hybridizations. Finally, the chapter concludes with a map of interlocutors for the construction of a media evolution theory and presents a first list of possible methodologies to apply in this emergent field.

1 Theoretical conversations²

What is a theory? In the context of this chapter theories are understood as conversations performed by scientific speakers and writers. If, as Austin (1999) said, we can make things with words, then scientists make theories with words. Language is a basic element for the construction and survival of organizations and scientific institutions (Flores 1997; Winograd and Flores 1987; Shotter 1993; Scolari 2009). Scientific conversations emerge from an organizational environment made up of universities, research centres, journals, conferences, and books. In these spaces researchers exchange information, discuss ideas, litigate, arrive at agreements and take on obligations – for example, to respect a scientific methodology and a series of publishing rules like blind peer review – inside a network of linguistic speech acts (Austin 1999; Searle 1969). In other words, researchers activate and hold conversations. To understand the dynamics of a scientific domain – for example, the theoretical production around the evolution of media – it is necessary to map its discursive territory, identify the interlocutors that participate in the conversations, and reconstruct their exchanges. Analysing theoretical conversations about the transformation of media through time is essential for understanding this scientific domain and supporting the creation of a theory of media evolution.

Communication theories have been classified in different ways, based on their originating discipline (sociology, psychology, anthropology, etc.); their explanatory system (cognitive, systemic, etc.); their organizational level (interpersonal, group, institutional, mass, etc.); their epistemological premise (empirical, critical, etc.) or their implicit conception of communicational practice (rhetoric, semiotic, phenomenological, etc.) (Craig 1999). Communication theories can also be classified into generalist theories and specialized theories. Although a theory that explains everything is unimaginable, it is obvious that some theoretical constructions tend towards integration and generate an explanatory model of greater scope. Specialized theories focus on one particular aspect or process of communication and leave others outside their explanatory model. Theories of limited effects, agenda-setting, or semiotic-textual models are a type of theoretical construction that attempts to explain a smaller area of the communication universe. On the other hand, scientific discourses on communication have always shown a tendency towards speaking about the mediums in an isolated way: studying television, radio, cinema, etc. Semiotics has also followed the same route; this is why there is a semiotics of television or a semiotics of cinema. In this context, any theory of media evolution should be oriented towards a generalist approach. It should go beyond a specific theory of television or blogs evolution: the proposal is to create a broad-spectrum theoretical construction to deal with past, contemporary, and, if possible, future mutations of the whole media ecosystem.

² This section is based on Roncallo-Dow and Scolari (2016), and Scolari (2008, 2009).

2 Beyond Darwin: From biological species to media species

It was not until the Renaissance that European philosophers began to draw parallels between the organic and the mechanical realms. George Basalla's reflections on the use of metaphors are very useful for framing the emergence of media evolution in the context of contemporary media studies and social sciences:

Initially the flow of organic-mechanical analogies moved from technology to biology. Structures and processes in living organisms were described and explained in mechanical terms. In the middle of the nineteenth century occurred a movement of metaphors in the opposite direction. The counterflow of metaphor was of critical importance; for the first time the development of technology was interpreted through organic analogies. (Basalla 1988: 15)

The first scientific conversations about technology and evolution took place in the nineteenth century, when a revolutionary conception of biological change was exported to social sciences.

2.1 On the origin of technical species

The application of Charles Darwin's evolutionary model to cultural and technological processes started the day after the publication of *On the Origin of Species* in 1859 (Darwin 1975). Only 1,250 copies of the first edition were printed, and they all sold in one day (Angus 2009). When Marx read *On the Origin of Species* he defined the volume as a "book which contains the basis in natural history for our view" (Marx & Engels 1975: 232). The second edition of the first volume of *Capital: Critique of Political Economy*, published in 1873 (the first edition was published in 1867), included a direct reference to Darwin's "epoch-making work" (Marx 2011: 375):

A critical history of technology would show how little any of the inventions of the 18th century are the work of a single individual. Hitherto there is no such book. Darwin has interested us in the history of Nature's Technology, i.e., in the formation of the organs of plants and animals, which organs serve as instruments of production for sustaining life. Does not the history of the productive organs of man, of organs that are the material basis of all social organisation, deserve equal attention? (Marx 2011: 406n)

However, the acceptance of Darwin's model by Marxists was not so smooth. In a letter to Lavrov sent in 1875 Engels recognized Darwin's theory contributions but considered them a "first, provisional, and incomplete expression of a newly-discovered fact." Engels suspected that the struggle of existence was not the only possible dynamics of biological systems: there was also co-operation in organic nature. "Both conceptions have a certain justification within certain limits, but each is as one-sided and narrow

as the other. The interaction of natural bodies – whether animate or inanimate – includes alike harmony and collision, struggle and co-operation” (Engels 1936: paragraph 3). Beyond these critical notes, Marx and Engels retained the highest regard for Darwin’s scientific work for the rest of their lives. In 1883, at Marx’s funeral, Engels said, “Just as Darwin discovered the law of development of organic nature, so Marx discovered the law of development of human history” (Engels 1883: paragraph 3).

Even if it is not the aim of this section to analyse in depth the introduction of evolutionary ideas in social sciences, it would be useful to recover the transdisciplinary spirit of these nineteenth century researchers and philosophers. In a field characterized by “productive fragmentation” (Craig 1999), the exchange of concepts, metaphors, and models is a powerful tool for the development of more integrated general theories. Once again, it should be remembered that theories have always been conversations, sometimes friendly, sometimes polemical, and always charged with passion for the construction of new knowledge.

2.2 Evolution and technology in the twentieth century

The application of Darwin’s model to society and technological evolution was a natural movement for late nineteenth and early twentieth century scholars. Darwinism contributed to the development of generalist visions of human-made tools evolution and of the relationships between society and technology. For example, Mumford’s *Technics and Civilization* (1934) provided an integrated picture of humanity’s technological evolution from the *eotechnical* phase (craft traditions) to the *paleotechnical* (industrial society based on steam machines) and *neotechnical* (society based on electricity). Mumford suggested a parallelism between the organic and the technical, making him a pioneer in proposing an ecological vision of technological culture based on the concepts of life, survival, and reproduction (Strate & Lum 2006). Even if the concept of “evolution” was practically absent in *Technics and Civilization*, it could be said that Mumford was thinking in evolutionary terms.

A century after Marx and Engels’ first review of Darwin’s theory, social science scholars had identified many more differences between natural and technological evolution. According to Maynard Smith, an aircraft engineer turned biologist,

In the organic world, once two lineages have diverged for some time, they cannot rejoin. In engineering, two inventions, first developed to perform different functions in different kinds of machine, can be brought together in a single machine; the trolley-bus is a ‘hybrid’ between a bus and a tram. (1993: 309)

Researchers like van del Belt and Rip agreed that “in technical evolution, as against species evolution, there is indeed much room for processes of creative combination and synthesis” (1987: 139). In his classic *The Evolution of Technology*, Basalla

proposed a “conscious utilization” of the evolutionary metaphor to deal with technology history. For Basalla the history of technology, a discipline that “focuses on the invention, production, and uses of material artefacts, benefits from the application of an evolutionary analogy as an explanatory device” (1987: 2). Evolutionary metaphor, in this context, is considered the best theoretical tool to understand the “diversity of things made by human hand” (Basalla, 1988: 1). However, the evolutionary metaphor “must be approached with caution because there are vast differences between the world of the made and the world of the born. One is the result of purposeful human activity, the other the outcome of a random natural process. One produces a sterile physical object, the other a living being capable of reproducing itself” (Basalla 1988: 2–3).

One of the deepest applications of Darwin’s model to technology evolution was developed by the researchers of the Epistemology Group (Ziman 2000). This field, called evolutionary epistemology, tends to interpret the entire story of human social, intellectual, and material development as the continuation of organic evolution by other means. Ziman starts with the following reflection:

Go to a technology museum, and look at the bicycles. Then go to a museum of archaeology, and look at the prehistoric stone axes. Finally, go to a natural history museum, and look at the fossil horses. In each case, you will see a sequence, ordered in time, of changing but somewhat similar objects. The fossils, we know, are sampled from the history of a family of biological organisms. They are similar because they are related by reproductive descent [...] Can technological innovation be explained in similar terms? (2000: 3)

According to Ziman and other members of the evolutionary epistemology school it is easy to find structural analogies between certain biological processes and the technological processes involved in artefact innovation. Material artefacts undergo *variation* by *mutation* or *recombination* of characteristic traits. Many different variants arrive to the market; they are subject to *selection* by users. In this context “the entities that survive are *replicated*, diffuse through the population and become the predominant type” (2000: 4). Ziman also mentions the *mutualistic* relationships between technologies (pens and inks, bombers and radar systems): “technical innovations in an industry such as car manufacture are so interrelated that one might describe it as a whole ecological system of coevolving artefacts” (2000: 4). The most obvious difference between technological and natural evolution is that novel artefacts are not generated randomly; they are almost always the products of conscious design.

Many researchers and intellectuals, from different perspectives and degrees of acceptance of Darwin’s original approach, have adopted evolutionary models to explain the accelerated transformations that human-made artefacts have gone through in the last two decades. For example, in *The Nature of Technology: What It Is and How It Evolves*, Arthur (2009) proposed a post-Darwinian model based on complexity, emergence, and self-organization. From the perspective of this interpretative frame “technology creates itself out of itself. It builds itself piece by piece from the collective of existing technologies” (2009: 176). According to Arthur, technology “[...]”

evolves by a process of self-creation: new elements (technologies) are constructed from ones that already exist, and these offer themselves as possible building-block elements for the construction of still further elements” (2009: 167).

Arthur defined his approach as “combinatorial evolution” (187), a process that goes beyond the traditional Darwinian vision:

In biology, combinations do form, but not routinely and by no means often and not by direct mechanisms we see in technology. Variation and selection are foremost, with combination happening at very occasional intervals but often with spectacular results. In technology, by contrast, combinations are the norm [...] In technology, combinatorial evolution is foremost, and routine. Darwinian variation and selection are by no means absent, but they follow behind, working on structures already formed. (2009: 167)

One hundred fifty years after Darwin first developed his biological evolutionary model and Engels and Marx imagined how it could be applied to technological change, their exchange remains on researchers’ agendas.

2.3 From media ecology to media evolution

The consolidation of an ecological vision for media and communication ran parallel to the diffusion of ecologist ideas from the 1960s (Scolari 2012, 2015). Although the concept of “media ecology” was officially introduced by Neil Postman in a talk given to the National Council of Teachers of English in 1968, Postman himself recognized that Marshall McLuhan had used it at the beginning of that decade, when the Canadian’s genius was at its brightest. (*The Gutenberg Galaxy* was published in 1962 and *Understanding Media* in 1964.) However, some researchers prefer to award the distinction of semantic coining to Postman. In any case, we should acknowledge that it was McLuhan who updated and integrated within one approach the ideas of some of his predecessors, including Lewis Mumford (1934), Harold Innis (1950, 2003 [1951]), Eric Havelock (1963, 1986), and Casey Man Kong Lum (Lum 2006).

Media ecology can be synthesised into one basic idea: technologies generate environments that affect those who use them. Some media ecologists such as Postman developed a moral interpretation of the new forms of communication, for example criticising the advance of television over the practices of writing, while others such as McLuhan ignored these concerns to a certain point in favour of analysing the perceptive and cognitive transformations that media users undergo. Other members of the media ecology tradition, such as Innis (1950, 2003 [1951]), preferred to link the evolution of the media with socioeconomic processes, for example the simultaneous development of the telegraph and the railways, within the context of a systemic view of society. In some of his famous aphorisms, McLuhan also drew attention to another dimension of the ecological metaphor: the media only gain importance when related

to other media. From this perspective, the media would be like “species” that coexist in the same “ecosystem” of communication. As McLuhan wrote in *Understanding Media*, “No medium has its meaning or existence alone, but only in constant interplay with other media [...] Radio changed the form of the news story as much as it altered the film image in the talkies. TV caused drastic changes in radio programming, and in the form of the thing or documentary novel” (2003: 43, 78).

This idea can also be identified in McLuhan’s tetrads (McLuhan & McLuhan 1992) and in many other passages of his books and articles. Nystrom (1973) reaffirmed this perspective when she wrote that “no medium of communication operates in isolation. Every medium affects every other medium” (130). This interpretation of the ecological metaphor is the intermedia dimension of media ecology, in which media are like “species” that live in the same ecosystem and establish relationships between each other. Postman also worked around this idea. In *Amusing Ourselves to Death*, he described the synergies and conflicts between different media in the United States (i.e., telegraph/press) and the central role of television in the media ecology: “through it [TV] we learn what telephone system to use, what movies to see, what books, records and magazines to buy, what programs to listen to” (1985: 78).

One of the biggest influences on McLuhan’s ideas was Innis’s conception of media and society change. For Innis (2003 [1951]), the relation between media was a basic component of his conception of the communication system in past and contemporary societies. The competition between media (books/newspapers, newspapers/radio, etc.) was central to his reflections, for example, when he wrote that “the monopoly of knowledge centering around stone and hieroglyphics was exposed to competition from papyrus as a new and more efficient medium” (2003: 35).

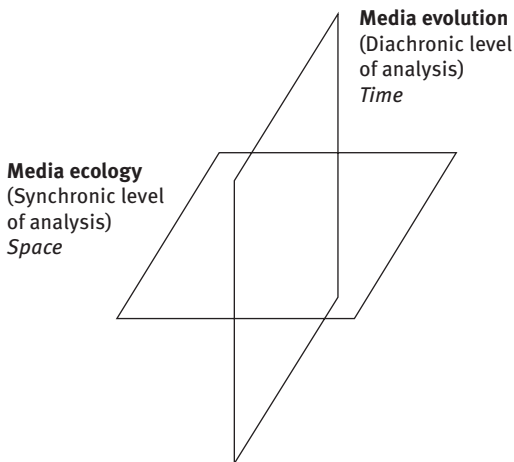


Figure 1: Media ecology and media evolution as complementary approaches (Scolari 2013).

If the ecological approach studies the network of relations between organisms *at the same time*, then the evolutionary approach investigates the diversification of

these organisms into new species, the extinction of species (macroevolution), and the smaller changes such as adaptations (microevolution). In other words, while the ecologist reconstructs webs of organisms, the evolutionary scholar draws trees of life. Or, in another sense, ecology thinks in space and evolution thinks in time. Both conceptions – ecology and evolution – are complementary and can be reorganized following the traditional linguistic opposition between diachronic/synchronic levels (Scolari 2013). (See Figure 1.) It is in this context that we can start developing a theory of media evolution and thinking how “media species” evolve.

3 Media evolution: an on-going theoretical conversation

As already indicated, many researchers close to the media ecology tradition have been reflecting on the evolution of media in the last decades. This section will describe a series of contributions that should be integrated in any theoretical conversation about media evolution. As this new approach is still a work in progress, in this phase of the theoretical construction no interlocutor, perspective, or approach should be excluded. Any of them could bring new concepts, conceptions, or analytical tools to the fledgling field.

3.1 The anthropotropic theory of media evolution

At the end of his career Marshal McLuhan developed with his son Eric the *laws of media*, a series of four principles (also called “tetrads”) that synthesized his vision of the dynamics of the media ecosystem (McLuhan & McLuhan 1992). The tetrads were a simple means of explaining the social processes underlying the adoption of media:

1. Enhances: Every medium or technology enhances or extends some human function.
2. Obsolesces: In doing so, it obsolesces some former medium or technology, which was used to achieve the function earlier.
3. Retrieves: In achieving its function, the new medium or technology retrieves some older form from the past.
4. Flips into: When pushed far enough, the new medium or technology reverses or flips into a complementary form.

Many scholars have been inspired by McLuhan’s tetrads. In his PhD thesis – supervised by Neil Postman – Paul Levinson developed an “anthropotropic” theory of the evolution of media (1979) later expanded in books like *The Soft Edge* (1997) and *Digital McLuhan* (1999). Levinson believes that media “constantly undergo evolution under pressure of

human usage and invention” (1999:108) and sees media increasingly selected for their support of “‘pre-technological,’ human communication patterns in form and function” (41). According to Levinson media evolve “in a Darwinian manner, with human beings acting not only as their inventors (obviously) but their selectors (i.e., the selecting environment, in Darwinian terms)” (52). Users make their selections based on two criteria:

1. They want media to *extend* their communications beyond the biological boundaries of naked seeing and hearing (*media as an extension* was McLuhan’s first law of media).
2. They want media to recapture elements of that biological communication which early artificial extensions may have lost (*retrieval* was the basic principle behind McLuhan’s third law of media).

To clarify this double conception Levinson worked on an “anthropotropical” approach to media evolution:

Indeed, as I discuss in my ‘anthropotropic’ theory of media evolution – *tropic* = towards, *anthropo* = human – the overall evolution of media can be seen as an attempt, first, to fulfill the yearnings of imagination by inventing media that extend communication beyond the biological boundaries of hearing and seeing (thus, hieroglyphics and the alphabet and the telegraph each in its way extends words thousands of years and/or thousands of miles), and, second, to recapture elements of the natural world lost in the initial extension (thus, photography recaptures the literal image lost in writing, and telephone, the phonograph, and radio recapture the voice). From this vantage point, the entire evolution of media can be seen as remedial. And the Internet, with its improvement of newspapers, books, radio, television, et al. can be seen as the remedial medium of remedial media. (1999: 179)

The second criteria, although it encompasses McLuhan’s notion of retrieval (Third Law), goes beyond it in specifying what elements of communication are most likely to be retrieved: telephone replaces telegraph under a human evolutionary pressure for retrieving the lost element of voice, colour photos replace black-and-white photos because subjects yearn to see the colours of the natural world in their technological reproductions of it, talking motion pictures replace silent (now called “speechless”) motion pictures, etc. (Levinson 1999: 52).

Levinson’s approach to media evolution includes a series of reflections on predicting future media mutations. A scientific prediction is, of course, a rigorous statement, based on empirical data, forecasting what would happen under specific conditions. Levinson believed his anthropotropic theory might help researchers in the difficult task of predicting the future of communications, but doing so is not easy in the face of an “open, unpredictable, imprescriptible, future” (185):

Unlike inorganic reactions, the results of which are almost as predictable as two plus two equals four, living processes are animated by dollops of unpredictability. On the individual level, this unpredictability can of course lead to death as well as success; for life as a whole, this noise in determinism serves as a source of novelty via mutation, and is thus one of the cutting edges of evolution. (201)

From a different theoretical approach, Dimmick (2003) also agrees on the unpredictable future of media systems:

Like the biologist, the researcher interested in the [...] media cannot appeal to universal laws like those of chemistry or classical physics [...] Like the biologist, who also studies complex living systems, the social scientist inhabits a world where prediction is difficult at best, and explanation must be won without recourse to causal laws. (2003: 1)

If researchers consider media ecology as a complex system and media evolution as an emergent phenomena, as Robert K. Logan does, then the properties of that system “cannot be derived from or predicted from the properties of the components of which it is composed” (Logan 2007: 19). In the next paragraphs media evolution will be approached from the perspective of complexity, emergence, and self-organization theories, a conception very close to Arthur’s (2009) analysis of technology evolution.

3.2 The biological foundation of media ecology

According to Robert K. Logan, a former collaborator of Marshal McLuhan, the evolution of technology “follows a pattern similar to that of living organisms as has been pointed out by a wide variety of authors” (Logan 2013: 85). Beyond McLuhan, Logan’s conception of media evolution has been inspired by researchers already cited in this chapter (i.e., Basalla 1988), and experts in complexity and self-organization (Kauffman et al. 2008):

Cognitive tools and physical technology are two resources at the disposal of human innovators, and the needs or demands of society are often the motivating force. Necessity is the mother of invention, yet invention does not occur in a vacuum. All of the previous innovations in a culture provide the resources, both cognitive and physical, for the next level of innovation. (Logan 2004b: 125)

As with many other researchers mentioned in this chapter, Logan confirms the central role of previous innovations in any change within the socioeconomic system. Each new invention, technological innovation, or discovery gives rise to new technical capabilities, new cognitive abilities, and new social conditions. These then “interact with the existing economic, political, social, cultural, technical, and cognitive realities of the culture to set the stage for the next round of innovation” (Logan 2004b: 125). Technological change, from this perspective, is part of an ongoing iterative process.

According to Logan, biology and culture “can no longer be studied separately because human evolution is a combination of biological and cultural evolution” (2007: 5). Logan proposes to go beyond the metaphoric use of the term “ecology” in the phrase “media ecology”:

[It] has been used more in its metaphoric sense than in the strict biological sense. This observation, which also pertains to my own media ecology work, is not meant to critique or disparage the efforts of media ecologists but rather to suggest that perhaps interesting insights might emerge if we take the term ecology at its face value and consider communications and media from a biological perspective. (Logan 2007: 5)

In this new context the hypothesis to be explored is that “media are emergent phenomena and may be regarded in a certain sense like organisms that propagate their organization and interact with each other like living biotic agents in an ecological system” (Logan 2007: 5). Most of Logan’s research has focused on the evolution of language, understood from a broad conception that goes far beyond the traditional linguistics. Logan considers “speech, writing, mathematics, science, computing, and the Internet as six distinct modes of language, which form an evolutionary chain of development” (2013: 55). Each one of these modes of language shares a distinct communications and informatics methodology, and provides a unique framework for viewing the world.

Logan (2004b) tackles the evolution of media following the notion that “one technology or medium leads to another,” as first formulated by McLuhan in *Understanding Media* (2003). Logan’s study of the evolutionary chain of six languages suggested a model for the development of information-processing and communication systems based on the idea that all innovations have a cognitive, social, and technological component. In other words, the six languages can be considered as basically conceptual technological tools, but each one requires one or more physical artefacts:

The development of speech required the evolution of a biological artefact – namely, the physical human speech apparatus including the lowering of the larynx and the emergence of the fine motor skill of the tongue. The other forms of language, writing, mathematics, science, computing, and the Internet all required some kind of man-made tools whether they be clay tablets and a wooden stylus, paper, pen, and ink, the printing press, or the computer. The development of the six modes of language resulted from the interplay of human cognitive tools, physical technology, and socioeconomic factors all at work in the culture. (Logan 2010: 85)

This model – in which the technology, the cognitive impact it produces, and the changed social environment all interact – provides an alternative to the simplistic notion of *technological determinism*, a charge which has often been levelled at McLuhan’s work. Surely, “technology plays a role in determining social outcomes, but not in an exclusive manner nor in a linear cause-and-effect manner either” (Logan 2010: 86). Simultaneously, the same McLuhan’s laws applied by Levinson in his anthropotropic approach (extension and retrieval) have been integrated by Logan into a single formulation: *a new medium is the extension of some older medium*:

The fact that technologies and media evolve from one form to another and that media are “extensions of man” gives rise to the notion of cascading technologies or media. As an example, the printed book is an extension of the written word, which is an extension of the spoken word,

which is an extension of a mental process or the mind. Thus we have a cascade of media from thought to the spoken word to the written word to the printed word. We can even extend the cascading process further to the library whose content is books and journals and hence is an extension of the printed word. (Logan 2010: 89)

As we can see Robert K. Logan, one of the most multifaceted disciples of Marshall McLuhan, jumps from media ecology to biology, from technological innovation to linguistics, complexity, and culture evolution. According to Logan, “media ecologists have not studied biology, evolution and emergence in depth nor have biologists paid much attention to media ecology.” From his perspective “the marriage of these two interdisciplinary fields will yield many interesting results to both fields of study” (2007: 23). If we consider theories as a conversation, then Logan occupies a central node in the network of exchanges about media ecology and media evolution.

3.3 When software takes command (and evolves)

In *Software Takes Command* (2013) Lev Manovich starts his analysis recovering Alan Kay’s contributions, who in the early 1970s defined computers as the first *metamedium* because their content was “a wide range of already-existing and not-yet-invented media” (44). According to Manovich, at first sight the computer metamedium evolves through a series of addition and accumulation processes (version 1.0, 2.0, etc.). However, he thinks that these are not the key elements of its evolution:

I believe that the new period that began in the late 1970s represents a fundamentally distinct second stage in the development of a computer metamedium, a stage that follows the first stage of its invention and initial practical implementation. This new stage is media hybridization [...] Once computers became a comfortable home for a large number of simulated and new media, it is only logical to expect that they would start creating hybrids. And this is exactly what has been taking place at this new stage in media evolution. (2013: 163)

Text, hypertext, still photographs, digital video, 2D animation, 3D animation, navigable 3D spaces, maps, location information, and social software tools are “building blocks” for many new media combinations. For example, Google Earth is a media hybrid that combines aerial photography, satellite imagery, 3D computer graphics, still photography, and other media to create a new representation defined by Google as a “3D interface to the planet.”

Manovich proposes to compare the computer metamedium’s development to a biological evolution so that we can think of a particularly novel *combination of media types as new species*. If in biological evolution the emergence of new species is a slow and gradual process that requires many generations, new “media species” can emerge overnight, as “it only requires a novel idea and some programming” (2013: 177). Software libraries facilitate the work of programmers/designers and accelerate

the testing of prototypes and experimentation of new “media species.” As with many other scholars, Manovich also identifies differences between biological and technological evolution. In evolutionary biology, species are defined as groups of organisms. In media evolution

[...] things work differently. Some novel combinations of media types may appear only once or twice. For instance, a computer science paper may propose a new interface design; a designer may create a unique combination for a particular design project; a film may combine media techniques in a novel way. Imagine that in each case, a new hybrid is never replicated again. This happens quite often. (2013: 177–178)

In the context of the media ecology some “media combinations that emerge in the course of media evolution will not be *selected*. Other combinations, on the other hand, may survive and will successfully *replicate*” (178). These successful hybrids may fix a new standard in media design and be recognized by a common convention in media design. In other words, they may become “new basic building blocks of the computer metamedium that can now be combined with other blocks” (178).

Media hybrids are all around human subjects: in user interfaces, on any screen, inside the smartphones, in museums, and in videogames. Users interact with them at any moment and actively participate in their evolution. The concept of *interface* is basic for the media evolution process and appears as a key category in Manovich’s work:

I am interested in how software appears to users – i.e. what functions it offers to create, share, reuse, mix, create, manage, share and communicate content, the interfaces used to present these functions, and assumptions and models about a user, her/his needs, and society encoded in these functions and their interface design. (2013: 29)

From the perspective of this chapter, Manovich’s focus on interfaces and media hybrids add more “food for thought” in the theoretical conversations about media evolution.

4 Conclusions: The future of media evolution

This chapter introduced a series of authors that should be part of any theoretical conversation about media evolution. In the last 150 years, many scholars have made important contributions for the understanding of technology evolution. The development of a theory of media evolution should start mapping these interlocutors and their textual production. Like any new technology, theories are hybrid constructions that emerge from a process of combinations inside a network of conversations. Metaphors, analogies, and comparisons are always present in these first steps of any new theoretical building.

The chapter reconstructed a first and limited conversation network that includes founding fathers like Darwin, Engels, Marx, and Mumford; media ecology referents such as Innis, McLuhan, Postman, Levinson, and Logan; and Manovich's reflections on the computer metamedium evolution. Each one of them proposes concepts (coevolution, selection, replication, extension, retrieval, hybridization, etc.) that could be considered the basic blocks of a theory of media evolution. To continue with this theoretical building, researchers need to develop more blocks, blueprints, and construction (methodological) protocols.

Even if the tradition of media ecology should be one of the main references of media evolution, this emerging field should not discard other interlocutors from traditional fields like media history, or new ones like media archaeology. Other approaches passingly mentioned in this chapter, such as Social Construction of Technology and Actor-Network Theory, should be part of the same conversation. (See Figure 2.)

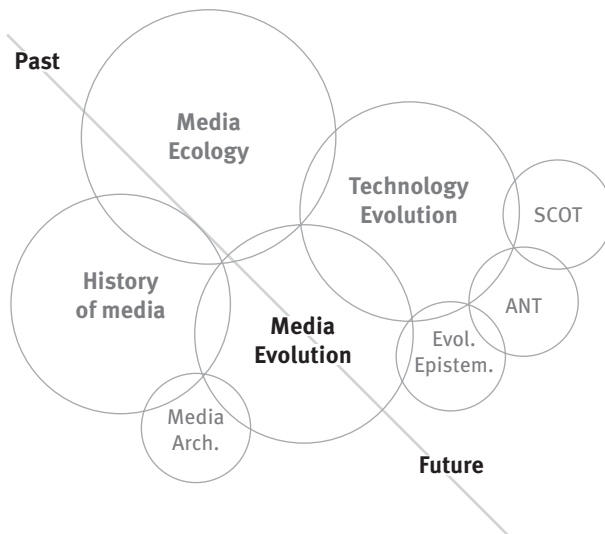


Figure 2: Media Evolution as a theoretical conversational field.

Future dialogue between media evolution and fields working on the integration of human and natural realms, like the Social-Ecological Systems Analysis, should be considered, even if it seems premature now (Glaser et al. 2012). In the short term the main efforts of media evolution should focus on two issues: the construction of a solid theory beyond the simple metaphorical application of the biological dictionary, and the definition of a set of methodologies to support and consolidate the theoretical building.

Many of the authors cited here recognize that the transfer of concepts, categories, and hypothesis from the biological to the technological realm is not automatic. The differences between biological and media species are so broad that, at a certain point, the metaphor is a limit for the theoretical construction. As Manovich warned, “[...] remember that I am evoking the biological model only as a metaphor, and that no claims are being made that the actual mechanisms of media evolution are similar to the mechanisms of biological evolution” (2013: 178). However, at the current state of the art, researchers can still “exploit” the biological metaphor while remembering that it is just a useful tool for proposing working questions and hypothesis. The use of the organic metaphor offers a great lexicon of concepts that, conveniently adapted, could be the basis of a future dictionary of media evolution (Scolari 2012, 2013, 2015).

From a methodological perspective, exploration of media evolution opens the door to the application of qualitative and quantitative methods (Scolari 2013). From the perspective of qualitative research, both media history (i.e. Gitelman 2006; Gitelman & Pingree 2003; Briggs & Burke 2009) and media archeology (i.e. Huhtamo & Parikka 2011; Parikka 2012) offer an interesting set of techniques that, conveniently adapted, could be adopted by media evolution researchers. The experience of researchers working in fields already mentioned, such as Actor-Network Theory (Latour 2005) and Social Construction of Technology (Bijker, Hughes, & Pinch 1987), or the morphological approaches of researchers like Basalla (1988), should also be considered as an indispensable reference for media evolution.

Regarding quantitative methods, media evolution should recover the analytical experience of evolutionary economics (Nelson & Winter 1982), evolutionary epistemology (Ziman 2000), literary criticism (Moretti 2005), and cultural analytics (Manovich 2009, 2013). For example, the analysis of 44 genres in British fiction between 1740 and 1900 allowed Moretti (2005) to identify patterns, isolate major bursts of creativity (genre emergence), and describe genre extinction. The same approach could be adapted to media evolution research. If pattern recognition was one of the favourite analytical tools of McLuhan (Moretti talks about “distant reading”), now it is possible to recover this approach working with data sets coming from media content, media devices, and digital traces left when people discuss, create, publish, consume, share, edit, and remix these media. Researchers should recognize the common traits of the evolution of media species, improving and deepening the field drafted in the *Laws of Media* (McLuhan & McLuhan 1992).

Media evolution should be considered a work-in-progress, an on-going conversation about the mutations of media species in the context of media ecology. As the mutation has accelerated and expanded along the whole media environment, it is important to develop concepts, analytical categories, and methodological tools to understand these technological changes that, never forget it, are social changes.

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Part III: **Methodological Approaches**

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10 Network Analysis

Abstract: This chapter outlines the use of social network analysis as a method in media research and takes a broad view on ways in which scholars can incorporate social network analysis into their work. The chapter begins with an examination of recent media research using social network analysis, using prior work as building blocks for a forward-looking research agenda. As a method, social network analysis has been used in research for decades, yet the combination of new data types and advances in the methodology have opened new avenues for scholarship. Building on these opportunities, the core methodology of social network analysis is discussed, and tools and practical approaches to research in this area are outlined. The second half of the chapter provides a practical lens for using social network analysis in research. Different approaches to data collection are presented, including a discussion of the level of analysis, from ecosystems to individual media outlets and producers of media. Approaches to collecting and structuring data are detailed, and descriptive analyses and hypothesis testing are both introduced, all in the specific context of media research.

Keywords: social network analysis, media research, methods, newspapers, digital media

1 Introduction

Social network analysis is a powerful tool for media researchers; it provides a methodological lens for studying interactions within a media ecosystem, and for studying the relationships of media organizations, individuals, and their interactions with consumers. This chapter provides an overview of the use of social network analysis as a means of studying media, with a specific focus on recent work in news media.

There are many reasons to choose social network analysis as a primary method of analysis. Social network analysis is particularly useful for understanding patterns of interaction that emerge in data (Haythornthwaite 1996), for efficiently describing large-scale relational patterns, and for understanding social relationships (Wasserman & Faust 1994). In the context of media, social network analysis provides an important perspective for studying media at multiple levels and in multiple modes (focusing on organizations, movements, topics, news articles, etc.). It can be a useful tool for examining issues of influence and impact, or for understanding how various organizations impact a media ecosystem through their production of news and information. Social network analysis can also be used at the individual level, to map out connections between journalists working on a common topic (coproduction), or to understand how individuals have engaged from various perspectives around a discussion topic on social media.

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Some have pointed to social network analysis as an important method for examining information networks, and for understanding the way that individuals interact with and consume media (Otte & Rousseau 2002). Others have pointed to social network analysis as a key tool for media scholars to understand a potential topic of interest, and to better strategize as to the starting point for subsequent studies (Howard 2002). Generically, social network analysis provides media researchers with an important tool for examining the information map pertaining to a given topic, and for better understanding processes of information flow.

To better understand the role of social network analysis as a method in media research, this work first presents an examination of recent research in social network analysis. A brief summary of recent history is provided, and used as a building block to explore recent research blending social network analysis and news media. This review helps to outline potential research questions to be asked in future studies. Then, this chapter examines the tools and practical approaches to social network analysis. In aggregate, the aim of this chapter is to examine the process of outlining a study of media using social network analysis, and to help the reader to understand the key steps to working with desired data.

2 A brief history of social network analysis

The roots of social network analysis can be traced back as far as Comte and Durkheim, both of whom discussed the notion that understanding the structure of human interaction was an important step to understanding human interaction (Freeman 2004). Since then, others have sought to develop mathematical approaches to recording relationships and understanding interaction. For instance, Hobson's (1894) work in economics tracked networks of co-membership, showing how board members often sat on the boards of multiple trading companies. His work included diagrams that mapped the interactions between various companies, but did not critically examine the impact of board members' having co-membership across multiple boards.

More recently, however, modern social network analysis maps back to scholarship in psychology and studies focused on social configurations. Most point to Moreno's (1934) study of the psychology of runaways at a girls' school in New York City, conducted in 1932, which found evidence of social influence as a factor in determining the likelihood that young girls would run away. Moreno used the term sociometry to describe the way that he mapped interactions between girls at the school he studied. Subsequently, researchers worked in the 1940s to develop matrix algebra and graph theory, which provided the underpinnings of modern social network analysis (Luce & Perry 1949). Others focused on group behavior, and used studies of the structures of groups to show that understanding to whom an individual is connected through social interaction bears on the person's perception and experience (Lewin 1947).

Elsewhere, Bavelas (1950) and colleagues worked to better understand communication structures and their impact on the speed and efficiency of group problem solving. Bavelas's work represented an early and idealized network analysis of communication within small groups, which showed that redundancy and clustering in communication patterns can lead to optimal solutions even if the communication structure is inefficient (Leavitt 1951). Additionally, scholars working at this time helped to enhance our understanding of basic phenomena such as balance theory (Heider 1946; also see Borgatti et al. 2009 and Wasserman & Faust 1994 for a more complete history of work in this area).

Further afield, social network analysis has a strong and well-developed history as a method in physics (Newman, Barabasi & Watts 2011) and biology (e.g., Zhang & Horvath 2005). Work in physics and biology has tackled numerous critical questions, examining large-scale information flow systems in order to understand basic generative patterns of communication and information diffusion (Bright, Hughes & Chalmers 2012). Biological research has used network analysis to understand basic mapping of neurological networks (Bullmore & Sporns 2009), and to test far more complicated relationships between species in the biological world, mapping issues such as the spread of diseases (Generous et al. 2014).

In communication, early scholars outlined social network analysis and communication networks as a paradigm of research for the study communicative interaction (Rogers & Kincaid 1981). Work at this time began to explore the nature of human interaction in relationships, showing that the frequency of communication in a network with romantic partners reduced uncertainty and improved relationship strength (Parks & Adelman 1983). Other early work showed that individual embeddedness in a network of social interactions improved an individual's connection to his or her workplace (Eisenberg, Monge & Miller 1983). Additional efforts focused on improving the analysis of communication-based networks and developing new models to understand communication interactions (Barnett & Rice 1985).

As the field has advanced, significant bodies of work have emerged. Specific to communication, Monge and Contractor (2003) outlined key theoretical lenses for studying social networks, and advocated for the power of looking at social networks at multiple interacting levels of analysis. Others have delved into the specific mechanisms that drive change in social networks (Newman, Barabasi & Watts 2011), or theorized more broadly about the societal impact of modern social networks (Castells 2013).

In recent years, the focus in social network analysis has started to move from descriptive studies of the attributes of social network analysis, and studies of theories of interaction, to more complicated modes of analysis, including longitudinal studies and research using simulation to make causal claims of significance about the relationships that exist within social media networks. Additional work has looked at patterns within data, and sought to examine behavior such as clustering and group formation. For instance, scholars have used social network analysis to examine the core mechanisms that drive a social network to evolve over time (Kossinets & Watts 2006).

In addition to advances in analytics, media scholars have engaged with social network analysis as a key method for addressed emerging questions in the media industries. Chon and colleagues (2003) mapped multiple media industries in order to understand industry consolidation; their work shows that deregulation and digitization had a dramatic effect on patterns of consolidation. Neff (2005) looked more qualitatively at the formation of ties in social networks, and found that the establishment of informal ties is crucial to improves one's own social capital. Others have mapped the patterns of news diffusion in social media (Bandari, Asur & Huberman 2012), and even sought to use social network analysis to predict patterns of news diffusion through online media (Leskovec 2011).

3 Data, tools, and research in network analysis

Social network data are much like traditional quantitative data, in that the data can be collected and collated using traditional social science methods such as surveys and interviews. Moreover, when seeking to understand and analyze social network data, researchers emphasize basic descriptive variables of the underlying structure as well as more sophisticated analyses of the attributes that add richer levels of meaning to the structure of a social network.

One of the most notable differences in the use of social network analysis is that the format of the data is different from that of traditional quantitative social science data. Hanneman and Riddle (2005) provide an accessible introduction to the basics of organizing and coding social network data. In short, the most basic modes of social network analysis use the sociomatrix as the primary data format. In this form (illustrated in Table 2) the columns and rows of a spreadsheet are identical and contain the names of the organizations, individuals or other actors that are being studied. A "1" or a "0" is then recorded to indicate the presence of a relationship. The numbers can also be valued to indicate the strength of the relationship (thus going beyond 1). In addition to the sociomatrix, it is common to create an attribute file to describe the actors being studied. The attribute file looks much like the raw data for a regression, in that the file will have a list of actors, and then the columns going across will consist of key variable names (e.g., age, gender, education, etc.) based on the research questions being asked.

Moving beyond a simple sociomatrix, social network data can take two primary forms: one-mode networks and two-mode networks. One-mode networks are the standard, and describe relationships between two actors of the same type (for instance, a network of journalists collaborating with other journalists). A two-mode network describes relationships between two different types of actors, such as a network of relationships between journalists and organizations they have worked for. A two-mode network can be projected to a one-mode network by using matrix multiplication (see Hanneman and Riddle 2005 for details on this procedure).

3.1 Tools for research

There has been a proliferation of tools available to help scholars engage in social network analysis. Tools range from point-and-click varieties that are relatively straightforward to implement, to open-source packages that work in Python and R-based environments, offering much greater flexibility in analyses, but requiring a higher learning curve to gain proficiency.

For most, NodeXL (Smith et al. 2012) and UCINET (Borgatti, Everett & Freeman 2002) provide reasonable starting points for working with social network data. NodeXL is a great package to begin with; although it is Windows-based, it works in conjunction with Microsoft Excel and there is an accompanying handbook that provides convenient step-by-step tutorials (Hansen, Shneiderman & Smith 2010). UCINET is another Windows-based point-and-click option that has been a standard in academia for more than a decade.

In recent years, new packages and projects have been developed that allow for more advanced network analysis. Gephi (Consortium 2014) and VOSON (Ackland 2008) provide more advanced functionality, but still have easy-to-use visual interfaces. The Gephi package's strengths lie in its flexibility in enabling multiple types of visualization; the software is also useful for many basic analyses and groupings of data. VOSON allows for some analysis, but also allows users to explore their own automatic collection of social network and web-based data.

Finally, several packages have been developed to support large-scale social network analysis, and to enable higher-order analysis, including research using exponential random graph modeling. In particular, the PNET (Wang, Robins & Pattison 2006) suite of programs focuses on enabling various types of exponential random graph modeling. Statnet (Handcock et al. 2008) is an R-based package that also focuses on exponential random graph modeling, but allows for more basic analysis as well. iGraph (Csardi & Nepusz 2006) is another R-based package that is useful for basic network analysis in the open-sourced R environment. Siena (Ripley & Snijders 2010) and RSiena (Snijders et al. 2007) are two packages that focus on longitudinal network analysis, and are particularly well suited for studying actor-centered networks that evolve over time.

3.2 Measures in social network analysis

The above provides an overview of the various tools available to conduct social network analysis. In turn, the following section provides a brief tutorial on some of the key measures that may be of use to media scholars working in this space. The field of social network analysis has created several basic network measures that help to describe the general structure and attributes of a network to better examine how individual actors engage with one another, and what attributes affect their interactions.

The following section provides a brief overview of some key measures of use when applying social network analysis to the study of media.

3.2.1 Centrality

Network centrality (Freeman 1979) is a basic measure that describe the degree to which an actor is central in a given network in comparison to other actors in the network. An analysis of Twitter data tracking Danish politicians and journalists was used to identify highly central and influence journalists and sources (Verweij 2012). The research showed that Christian Democrats were highly central (based on in-degree, or inbound ties); this is not surprising given their central position in government at the time of the study but is clearly reflected in the network data. In another example, researchers created a network of environmental activists and media coverage. The analysis looked at the most central actors based on communication between environmentalists, and found that the most central actors were likely to be covered the most by the media, even those the most central actors were generally not the leaders of the movement (Malinick, Tindall & Diani 2013). Thus, these examples illustrate that basic measures such as centrality can be useful for studies of media; other key measures such as betweenness, density, network size, and reciprocity can all be utilized in similar ways.

3.2.2 Brokerage

Measures of brokerage are useful for describing the degree to which an actor exerts control over the flow of information in a given network (Burt 2005). There are a number of different actual measures of brokerage, but the overall concept is to identify individual actors who connect otherwise unconnected actors. For instance, a 2009 study of citizen journalism in South Korea between 1995 and 2002 found that brokering activity in social networks of journalists was a key driver of innovation in the networks. The actors who were in key brokerage positions helped to drive the success of new types of reporting, and also helped to build coalitions of journalists (Kern & Nam 2009).

3.2.3 Clustering

At a broad level, clustering is useful for understanding the formation of groups in a larger network of interaction (Shah, Cappella, Neuman, Driscoll, & Thorson 2015). There are many types of clustering analysis that one can conduct, but the underlying approach is to identify different types of common groups within the network data (Marco et al. 2013). In practice, a recent study of news discussions on Twitter used a cluster analysis of discussions based on hashtags to identify key themes of conversation (Bruns & Burgess 2012).

3.2.4 Exponential random graph models

Focusing on statistical models, exponential random graph (ERG) analysis is an approach to network analysis that focuses on a broad family of models for describing networks and assessing significance in networks. The data collected in social network analysis is relational and interdependent, which makes traditional causal analysis such as regressions difficult to use because the underlying assumptions are violated. ERG models allow researchers to examine social networks, and to assess whether or not certain patterns in the data are significant as compared to random chance (Robins et al. 2007). For instance, ERG models have been used to show that online news websites are more likely to attract hyperlinks from competitors if they are economically successful, and if they have a corresponding offline presence (Gonzalez-Bailon 2009). ERG models have also been used to show that certain legacy newspapers and key online news sources have emerged as authorities in networks on online information, controlling information flow and setting news agendas (Weber & Monge 2011).

In sum, the above provides a review of some of the key measures that have been used to extend social network analysis to media research. These are just some of the many measures that are available, but this provides a starting point for thinking about this method in your own research.

4 Implementing social network analysis to study the media

Social network analysis has proven tremendously useful as a tool for studying the media across multiple levels. Social network analysis has been implemented to study interactions at the ecosystem, organization, and individual levels, and has been used to examine a range of interactions varying in type and scale.

The preceding discussion has pointed to key research questions and research topics that have been addressed using social network analysis. This section builds on that discussion and points to key questions that should be addressed when engaging with social network analysis as a method. From a practical perspective, researchers should focus on the following four questions:

1. What is the overarching theory and/or research question?
2. What is the level of analysis?
3. What is the nature of the relationship explored in the study?
4. What are the hypotheses being tested?

Consider the following example that illustrates one implementation of social network analysis to study an aspect of the media industry. In recent years, there has been increased attention on the changing nature of employment in news media

organizations. Numerous scholars have pointed to a need to better understand new job skills in modern newsrooms (Stencel & Perry 2016), as well as the changing nature of the ways in which employees move between organizations and engage with new hiring practices (Čudanov & Kirchner 2016). Imagine a researcher wanting to explore the changes in hiring practices of journalists by looking at where journalists have been employed in previous jobs, and what their job roles were and are. Prior scholarship suggests that social network analysis can be used to trace employment patterns by mapping the relationship between an employee's current job role and prior job role (Kreiss 2016). The following sections follow through on this example, and use a subset of previously collected data to illustrate the challenges of the four questions above.

4.1 Theoretical framing

First, the researcher engaging with social network analysis needs to address questions regarding what the overarching theoretical question and/or research questions are. A strong theoretical framing is important as it provides a lens for understanding subsequent findings.

For instance, institutional theory talks about how new types of business emerge slowly, building on traditions established by existing organizational forms and evolving as an ongoing process of change and adaptation (DiMaggio & Powell 1983). Looking at the level of individual employees, the theory posits that new employees who are part of a process of change and evolution are likely to come into a changing industry from other industries (Sherer & Lee 2002). Over time, as new skills emerge in the target industry, hiring will begin to refocus on existing employees within the industry, but external hires bring in new skills that are difficult to obtain internally. The theory of institutionalization thus gives the researcher interested in the above scenarios a roadmap for thinking about the way work histories in news media can tell an important story about institutionalization. In addressing the changes that are occurring in the news media industry, it follows that the researcher may want to examine the hiring practices of news media companies, and look at the degree to which news media companies are hiring from new entrants into the ecosystem. Broadly, therefore, the theoretical framing helps to address some initial questions about how to engage with social network analysis.

4.2 Level of analysis

The second core question asks the researcher to think about the level of analysis. The framing of institutional theory, and the focus on individual employment, indicates

that the level of analysis will focus on individual employees and the organizations that those employees have worked at.

At a higher level, the question of level of analysis asks the scholar to think about the type of data being collected. If a researcher is interested in theoretical questions that focus on the nature of media organizations, that pushes data collection in a particular direction. Likewise, if a researcher is interested in social movements and individual social media use, that pushes data collection in yet another direction. In the first case, the scholar collecting data would need to create a data collection worksheet that focused on organizations, and would then want to develop attributes to be collected that describe the size, focus, and behavior of organizations. In the second case, the researcher may decide to focus on pre-existing datasets of behavior on social media. Collected attribute data would then need to fit with both the nature of the pre-existing dataset as well as the questions suggested by the theoretical framing.

Table 1: Sample two-mode sociomatrix data on employees and organizations.

	Employee 1	Employee 2	Employee 3	Employee 4	Employee 5	Employee 6
WSJ	1			3		
MSNBC		2	3	1		2
NYT	2	1			2	1
BuzzFeed	3	3	1		1	3
CBS News	4			2		
Facebook			2			

Returning to the question of employment and organization, the level of analysis also helps to inform data collection. As illustrated in Table 1, the researcher collected data indicating organizations (as either columns or rows) and employees in the opposite. In this sociomatrix data format, positively valued numbers indicate that an employee worked at a given company. In most cases, the empty cells would be filled with zeroes to indicate the absence of a relationship.

The data in Table 1 presents employee work histories collected through online data collection. The data were coded as weighted variables, where “1” indicates the most recent jobs, and subsequent numbers indicate prior jobs.

4.3 Nature of relationship

The third question asks about the nature of the relationship being explored. The theoretical framing and the level of analysis lead the researchers to think about the type of relationship to be examined. Returning to Table 1, the illustrated

sociomatrix includes data at two levels; as the researcher moves to analysis of the data it is helpful to focus on particular types of relationships and particular levels of analysis.

The nature of the relationship being examined can help the researcher narrow down her focus and move forward with the study. In this case, the theoretical framing of institutional perspective is being used to study how the hiring patterns of organizations change as the news industry is adapting to digital production and mobile news. As such, the research question focuses on patterns of hiring from other organizations. In network terminology, it would then make sense to transform the two-mode network in Table 1 to a one-mode network, shown in Table 2.

Table 2: Sample one-mode sociomatrix data on organizations.

	WSJ	MSNBC	NYT	BuzzFeed	CBS News	Facebook
WSJ					1	
MSNBC			2			1
NYT	1			1		
BuzzFeed		2	1			
CBS News			1	1		
Facebook				1		

Transforming two-mode data to one-mode data involves examining the relationships that exist. Consider Employee 1 in Table 1. Employee 1 worked first at CBS News, then BuzzFeed, *The New York Times* and finally *The Wall Street Journal*. From the perspective of organizations connected to organizations, CBS News is connected to BuzzFeed because BuzzFeed hired one of CBS News's employees. In this way, the focal relationship is organization-to-organization, and knowing this helps the researcher understand how best to transform the data. A cell has a value greater than one if a company hired more than one employee from the other company. As for the case above, MSNBC hired two employees from BuzzFeed.

Once the type of relationship has been determined, and the one-mode network data has been created, as shown in Table 2, it is then possible to generate a diagram of the network. Figure 1 shows an illustration of the network created using the Gephi network package. Larger nodes are linked to more frequently, and thicker lines indicate a stronger relationship.

Visualizing a network at this stage provides a way to conduct an initial examination of the relationships present in your data. Moreover, it is also a way to check and verify that you have coded data correctly. The data in Table 2, used to generate Figure 1, are merely used here as an example, and are drawn from a much larger dataset, but nevertheless it is possible to see how the data can quickly expand out to create a meaningful network of employment.

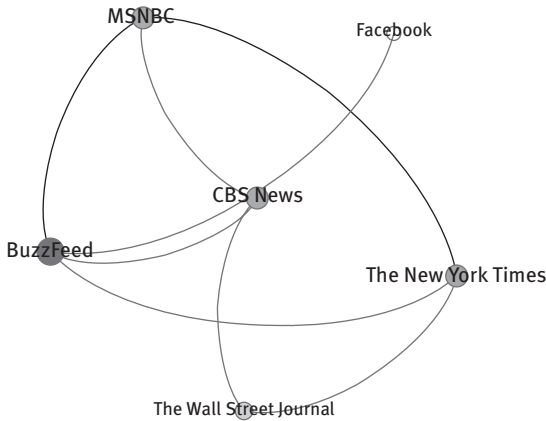


Figure 1: Sample employment network.

4.4 Hypothesis testing

The fourth research question asks the researcher to think about the hypotheses being tested. This last question helps to determine the format of the data, and the potential packages to be utilized for data analysis. Each package has its own particular strengths, and will suit certain data type better than others. For instance, if the researcher wants to focus on understanding why certain actors are central in a network, it may make sense to simply calculate centrality for each actor and then analyze the resulting data in conjunction with other attributes through a standard form of analysis, such as regression. On the other hand, if the theoretical questions being asked lead the research to more advanced questions regarding the underlying importance of the network structure, higher level approaches such as ERG modeling are likely to prove more useful. The section on network measures gives some guidelines as to the type of measures that can be used, and points to a number of resources for thinking further about analyses to address hypotheses and research questions.

5 Networks in media

The prior section gave an overview of the general approach to implementing social network analysis as a research tool. Social network analysis has proven particularly useful for understanding interaction in media at multiple levels of analysis. Studies of media focus on three primary levels: interaction between organizations, interaction within organizations, and individual interaction.

Classic studies of media organizations have often considered the effect of interaction between media producers and media consumers (Turow 1984); this point of view has been particularly salient in studies focused on news media. Indeed, a

systems perspective of media inherently emphasizes the interactivity of entities within a system (Turow 1992); social network analysis is thus a key method for analyzing research that takes this framing. Other work has emphasized the production of new forms of media based on interaction between existing organizations, and existing forms of media (Baldwin, McVoy & Steinfed 1996); again, an understanding of the interactive patterns – enabled by social network analysis – is key to examining emerging trends in media industries.

5.1 Ecosystem level

At the ecosystem level, social network analysis is a tool for understanding how systems of interaction develop through communication in the media. For instance, work at this level shows how organizations interact with other organizations, how organizations produce and distribute media, and how organizations adapt to changes over time. Early research in this arena used social network analysis to map out the interaction between print and online newspapers (Chyi & Lasorsa 2002), although such studies focused more on audience analysis and less on interaction between different newspaper types.

Weber's (2012; Weber, Fulk & Monge 2012) work looks at the way that news media organizations have adapted to new forms of communication technology. His research uses hyperlink analysis to examine how newspaper companies shared news and information with other newspaper companies during the formative periods of news on the Web. Hyperlink analysis has been well-established as a key approach to mapping and studying connections amongst news media organizations (Park 2003). A similar approach was used to show the degree of consolidation of media companies amongst a handful of media conglomerates (Arsenault & Castells 2008). In that research, ties between media organizations were recorded based on ownership of subsidiaries. Early in the 2000s, hyperlinks became a strategic tool for news media organizations; from a network perspective they are key indicators of structure and relationships at the ecosystem and organization levels (Dellarocas, Katona & Rand 2013). Similar work has been used to map connections between online newspapers as a way to understand which types of newspapers are in competition with one another (Chyi & Sylvie 1998). In aggregate, social network analysis provides an important tool for understanding the broad ecosystem of news media, and media in general, and provides a way to map and analyze that ecosystem.

5.2 Organization level

Organization level research in media seeks to understand how organizational interactions change, but with regards to interactions internal to the organization, as well as interactions between members of the organization and external stakeholders. This

perspective could also look at questions regarding how media, as representative of an organization, are engaged with by others outside of the organization.

At the organizational level, scholars have focused on questions such as the formation of ties between newspaper organizations. Within organizations, scholars have looked more specifically at the choice journalists make within an organization to provide hyperlinks to stories on other organizations' websites (De Maeyer & Holton 2015). Hyperlinks have proven to be a critical tool for news media organizations, guiding consumer attention, and serving as an indication of relationships both within the organization's content and to external content (Coddington 2014).

Organization level social network analysis has also been useful to examine specific classes of organization. For example, local news media organizations have particularly suffered in the ongoing industry wide decline of news (Nielsen 2015), and social network analysis has been used to show how local news organizations have become isolated, with fewer and fewer links to mainstream outlets. New patterns of information dissemination, and new patterns of alliances and information sharing amongst traditional and new media companies, have led many to suggest that news media, and media production in general, has entered a new era requiring new modes of analysis for thinking about changes in the industry (Picard 2014).

Lastly, organization level studies have been used to look at how news media organizations have engaged in competition and coproduction with their peers based on a variety of key attributes (Ognyanova & Monge 2013); such work is based on an ecosystem view, in part, but also looks explicitly at the nature of organizations.

In sum, the organization level view offers an important lens for studying media organizations as they adapt and evolve. In addition, these studies show how research in this space often blends across levels.

5.3 Individual level

In recent years, media scholars have focused extensively on the impact of social media and social networking sites on communication activity. Social network analysis has been a key method for examining the ways in which social media impacts communicative activity, collective action, and engagement within communities.

For example, an extensive body of work focuses on the use of social media as a tool for enabling collective action. Scholars used social network analysis to examine the construction of audiences on Twitter in support of the Arab Spring movement, looking at the way different language groups (English vs. Arabic) used Twitter to participate (Bruns, Highfield & Burgess 2013). Similarly, Argawal et al. (2014) utilized a database of 60 million tweets to analyze the emergence of organizational structure out of Twitter interactions from the Occupy Wall Street Movement. A study of Twitter

activity around the war in Syria found that communities increasingly formed around homophilous ideas, and shifted to fragmented niche communities (Freelon, Lynch & Aday 2015). While many have looked at the structure of such social movement networks, other work has examined the content of social media posts, and used the content as an attribute in order to show how the composition of a message impacts the likelihood that it will be retweeted or reposted across a network of users (Penney & Dadas 2014).

At a practical level, new forms of media in the newsroom have provided journalists with the tools they need to establish ties with public audiences in unique ways (Zerfass & Schramm 2014). Studies of journalistic practice have examined how the practice of reporting sporting events via Twitter diffused through networks of sports journalists talking to one another (English 2014); while the work did not explicitly utilize social network analysis, the principle of examining networks of relationships was a guiding component of the study. Simultaneously, new networks of interaction are forming in newsrooms, as journalists work across boundaries to move the field forward. One key example is the way journalists are working with programmers to develop new mobile apps and interfaces for newsroom content distribution (Lewis & Usher 2014).

Finally, looking at groups of individuals interacting on social media, Driscoll and Thorson (2015) examined the interaction between traditional media and social media during the 2012 presidential debates. Their work demonstrates a connection between emotion expressed in the presidential debates and content and volume of tweets (as opposed to a connection to substance).

Individual level social network analysis studies in journalism provide a tool for examining the interaction and behaviors of both the producers and consumers of news and information. Given the fluctuations of today's media industry, this is a particularly opportune space for research.

6 Social network analysis and research in a modern media environment

This chapter provided an overview of social network analysis as a tool for media research. The sections in this chapter are intended as a high-level guide, and are not a comprehensive tutorial. The hope is that this chapter inspires thinking about ways to integrate social network analysis into extant research streams. Moreover, as the research landscape becomes ever more complicated, social network analysis has proven to be an important tool for handling new challenges in today's modern media environment.

For instance, the modern media environment has brought to light a host of new research challenges for media scholars. The growth of new forms of information communication technology such as social networking sites, and the increasing

reliance on mobile media platforms, has complicated the relationship between media producers and media consumers. Indeed, consumers of media are in many cases just as likely to be producers of media.

Modern media scholars are equally challenged to understand shifts in power dynamics in the modern news media environment, and to understand how today's media landscape has become increasingly polarized and bifurcated (Adamic & Glance 2005; Meraz 2009). More effort is also needed to inform and educate consumers about the degree to which new social media platforms create “black boxes” of information about them, with consumers increasingly unaware of how information is provided and how data are utilized (Driscoll & Walker 2014). In each case, social network analysis has been implemented to begin to address these questions.

Indeed, recent work points to the potential of social media as a new way for newspapers to drive engagement with consumers, and to engage consumers as active producers of news (Ju, Jeong & Chyi 2014). Those scholars used social network analysis to analyze changing patterns of interaction, helping to identify patterns of success.

Finally, the growth of social media has also led to a proliferation of Big Data, creating countless new challenges for scholars working to scale traditional research methods to handle large-scale data sets (boyd & Crawford 2012; Loader & Dutton 2012). Many questions remain with regards to the ethics of Big Data research. Moreover, many note that there is a need to insure the veracity of research in this space (Lazer et al. 2014). Theory provides a guiding lens for ensuring that theoretical expectations align with research outcomes, especially in conjunction with social network analysis.

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Jim Macnamara

11 Content Analysis

Abstract: Because of the central role mass media and, more recently, social media play in contemporary literate societies, and particularly because of intensive interest in and often concern about the effects of media content on awareness, attitudes, and behaviour among media consumers, analysis of media content has become a widely-used research method among media and communication scholars and practitioners as well as sociologists, political scientists, and critical scholars. This chapter examines the history, uses and methods of media content analysis, including qualitative as well as quantitative approaches that draw on the techniques of textual, narrative and semiotic analysis; explains key steps such as sampling and coding; and discusses the benefits of conducting media content analysis.

Keywords: Media content, media analysis, coding, sentiment, machine coding

1 A brief history of media content analysis

Media content analysis is a specialized sub-set of *content analysis*, a well-established research method that has been used since the mid-eighteenth century. Karin Dovring (1954–1955) reported that the Swedish state church used content analysis in 1743 to test whether a body of ninety hymns created by unsanctioned sources, titled *Songs of Zion*, were blasphemous, or whether they met the standards of the Church. In reviewing this early example of content analysis (which incidentally found no significant difference between unsanctioned and sanctioned hymns), Dovring identified several approaches used by the church, but reported that *counting* words and phrases and the context of their usage was the major focus. This approach remains central to content analysis today.

An early form of *media* content analysis appeared in a 1787 political commentary published by *The New Hampshire Spy*, which critiqued an anti-Federalist essay. The authors of the commentary noted that the terms “well-born” and “aristocracy” were used eighteen times and “liberty of the press” was used thirteen times (Krippendorff & Bock 2009: 1).

Sociologists have been interested in mass media content since the early twentieth century, starting with Max Weber, who saw media content as a means of monitoring the “cultural temperature” of society (Hansen, Cottle, Negrine & Newbold 1998: 92). James Drisko and Toni Maschi (2016: 10) trace the origin of formal academic content analysis to a speech Weber made to the first congress of German sociologists in 1910. In it, Weber advocated for the formal analysis of newspaper content, both advertising and editorial, to identify trends in social change.

Psychologists also began to use content analysis in the mid-twentieth century. Gordon Allport (1942, 2009) applied the method to reviewing case studies and analysis of

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personal documents to understand the feelings and attitudes of their authors. Other psychologists and psychiatrists also used content analysis to identify patterns of language in transcripts of patient interviews for how they reveal emotions, attitudes, and perceptions. The method has also been used in linguistics, history, and the arts (Mayring 2000).

2 The growth of media content analysis

Media content analysis was advanced as a systematic method to study mass media, notably by Harold Lasswell (1927), initially to study propaganda. This stream of research continued between the two World Wars and during World War II, when it was used to study Nazi propaganda as well as how Allied forces might use propaganda to motivate troops, maintain public support for the war effort, and demoralize the enemy.

During the 1920s and 1930s media content analysis was also applied to investigate the content of movies produced by the burgeoning Hollywood film industry. With the arrival of television in the 1950s, media content analysis proliferated as a research methodology in mass communication studies and social sciences. Media content analysis has been a primary research method for studying portrayals of violence, racism, and representations of women in television programming as well as in films, on the basis that this symbolic content potentially influences attitudes and behaviour. For example, Arthur Berger (1991: 25) broadly describes content analysis as “a research technique that is based on measuring the amount of something (violence, negative portrayals of women, or whatever) in a representative sampling of some mass-mediated popular form of art.”

Kimberley Neuendorf (2002: 1–2), describes content analysis as “the primary message-centred methodology” and cites studies showing that “in the field of mass communication research, content analysis has been the fastest-growing technique over the past 20 years or so.”

3 Defining content analysis: Contested approaches

Despite its growing popularity as a media research method, content analysis has been the subject of two “controversies” debated over many decades (Berg 2007). The first is whether content analysis is a quantitative or qualitative method, or both.

3.1 Quantitative or qualitative?

Throughout most of its history, content analysis has been defined and executed as a quantitative research method, and content analysis often still uses to this

methodological approach. However, an increasing number of researchers are advocating content analysis as a qualitative method, giving rise to mixed method approaches. This “paradigm battle” that has raged within the larger theatre of research “paradigm wars” (Bryman 2008) is evident in definitions and descriptions of content analysis.

One of the earliest formal descriptions of content analysis was provided by Harold Lasswell, Daniel Lerner, and Ithiel de Sola Pool (1952: 34), who said:

Content analysis operates on the view that verbal behaviour is a form of human behaviour, that the flow of symbols is a part of the flow of events, and that the communication process is an aspect of the historical process ... content analysis is a technique which aims at describing, with optimum objectivity, precision, and generality, what is said on a given subject in a given place at a given time.

In the same year, Bernard Berelson (1952: 18) defined content analysis in terms that even more explicitly position it as a quantitative method, calling it a “research technique for the objective, systematic and quantitative description of the manifest content of communication.” Similar definitions have been provided by Philip Stone, Dexter Dunphy, Marshall Smith, and Daniel Ogilvie (1966: 5) who, acknowledging the work of Ole Holsti (1969), say that “content analysis is any research technique for making inferences by systematically and objectively identifying specified characteristics within text.” Use of the terms “objective” and “objectivity” in these definitions reveal a positivist and structuralist approach that postmodern poststructuralist researchers challenge, as discussed later in this chapter.

More recently, Kimberley Neuendorf (2002: 10) says “content analysis is a summarizing, quantitative analysis of messages that relies on the scientific method.” Neuendorf goes on to note that content analysis should include “attention to objectivity-intersubjectivity, *a priori* design, reliability, validity, generalizability, replicability, and hypothesis testing” (10). While also emphatically describing content analysis as a quantitative research method with a capacity to produce generalizable findings, Neuendorf does give recognition to the postmodern notion of *intersubjectivity* (shared interpretation), rather than objectivity, which many researchers now believe is unattainable by humans. However, Neuendorf argues that qualitative analysis of texts is more appropriately described and categorized as rhetorical analysis, narrative analysis, discourse analysis, semiotic analysis, interpretative analysis, or critical analysis (5–7).

While some continue to insist that content analysis is a quantitative method and refer to qualitative approaches to analyzing texts as textual analysis (e.g., McKee 2003), many other researchers, such as David Altheide (1996), Ellen Hijams (1996), Klaus Krippendorff (2004), and Pamela Shoemaker and Stephen Reese (1996) see it as a mixed quantitative and qualitative method. Shoemaker and Reese argue that there are two traditions of content analysis – the *behaviourist* tradition and the *humanist* tradition. The behaviourist approach to content analysis, pursued by social

scientists, is primarily concerned with the effects that content produces. Whereas the behaviourist approach looks forwards from media content to try to identify or predict future effects, the humanist approach looks backwards from media content to try to identify what it says about society and the culture producing it. Humanist media scholars draw on psychoanalysis and cultural anthropology to analyze how media content such as film and television dramas reveal truths about a society – what Shoemaker and Reese term “the media’s symbolic environment” (1996: 31–32).

These two perspectives inform the age-old debate over whether media *create* public opinion, attitudes, and perceptions (effects) or *reflect* existing attitudes, perceptions, and culture. Most researchers today agree that, with limitations, media content do both.

Shoemaker and Reese (1996) claim that social scientists taking a behaviourist approach to content analysis rely mostly on quantitative content analysis, while humanist approaches to media content tend towards qualitative analysis. They say: “Behavioural content analysis is not always or necessarily conducted using quantitative or numerical techniques, but the two tend to go together. Similarly, humanistic content study naturally gravitates towards qualitative analysis” (32).

Importantly, in terms of methodology, Shoemaker and Reese (1996) go on to note that “reducing large amounts of text to quantitative data ... does not provide a complete picture of meaning and contextual codes, since texts may contain many other forms of emphasis besides sheer repetition” (32). Similarly, in discussing media content analysis in *The Media Book*, Chris Newbold, Oliver Boyd-Barrett, and Hilde Van Den Bulck (2002: 84) say that quantitative content analysis “has not been able to capture the context within which a media text becomes meaningful” and advocate attention to qualitative approaches as well.

In his widely-used text on social research methodology, W. Lawrence Neuman (2006: 323) comments on the quantitative-qualitative dichotomy in content analysis: “In quantitative content analysis, a researcher uses objective and systematic counting and recording procedures to produce a quantitative description of the symbolic content in a text.” But he adds that “there are qualitative or interpretative versions of content analysis.” Noted media researcher Charles Wright (1986: 125) said content analysis “may involve quantitative or qualitative analysis, or both.” Berg (2007) advocates what he calls a “blended” approach, and Hansen et al. (1998: 91) similarly argue for a mixed method approach in content analysis:

... rather than emphasizing its alleged incompatibility with other more qualitative approaches (such as semiotics, structuralist analysis, discourse analysis) we wish to stress ... that content analysis is and should be enriched by the theoretical framework offered by other more qualitative approaches, while bringing to these a methodological rigour, prescriptions for use, and systematicity rarely found in many of the more qualitative approaches.

Several other media researchers, including James Curran (2002) and David Gauntlett (2002), also refer to quantitative and qualitative content analysis and view the

approaches as complementary in determining the likely meanings for and impact of media content on audiences.

3.1.1 Units of analysis

In both quantitative and qualitative content analysis, the units of analysis are typically selected words or phrases used in a particular context, referred to as key words in context (KWIC). These can be part of everyday language or specialized signifiers, such as brand names, place names, or the names of people, depending on the purpose of the analysis and the hypotheses or research questions being investigated. Images such as photographs, cartoons, or frames in films and video can also be studied using content analysis.

The units of analysis (i.e., words, phrases, and images) are assigned to *categories* in the process of content analysis. For example, a researcher might categorize words such as “attack,” “assault,” “hit,” “threatened,” and so on into a category called “violence.” Researchers studying an organization’s reputation will need to establish categories such as “quality,” “trustworthiness,” “environmental performance,” and so on and then count words, phrases, or visual images such as photographs that relate to those concepts. Categorization commonly includes identification of both positive and negative representations of the various concepts and factors studied.

Besides using subject-orientated categories to study topics and messages, media content analysis coding systems also frequently establish categories for coding other variables that determine the salience and likely impact of the content. Typical variables identified and recorded in media content analysis include:

- *Positioning*, such as whether items appear on a front page or as a lead item in broadcast media, among lead items, or towards the back of a publication or end of a broadcast program. Special weightings can also be applied for lead items in particular sections, such as finance or sport;
- *Prominence of mention* of the units of analysis in the item – e.g., headline mentions, first paragraph mentions, prominent mentions, or what are termed “passing mentions”;
- *Size or length* of media items;
- *Media weighting* to place more emphasis on high circulation, high rating, or highly influential media vis-a-vis those with small audiences or non-target audiences.

3.1.2 Coding

The most common method of assigning units of analysis to categories is *coding*. Three methods of coding have been used in content analysis as technologies have changed.

In early, pre-computer age analysis, coding involved physically marking content with a category number or descriptor, such as alongside a television transcript or press clipping. With the ready availability of computers, coding is increasingly done by recording counts of key words in various contexts in a computer application (see Section 7 of this chapter, “Computer programs for content analysis”). This method can be undertaken using generic computer applications, such as databases or spreadsheets, or with the aid of an increasing range of applications designed for content analysis. The third method of coding that is gaining in popularity, but remains controversial, involves the use of automated coding based on natural language processing (NLP) and machine learning. Examples of applications for both human and automated coding and some of the key considerations in relation to each are discussed in this chapter under Section 7.2., “Human vs. computer coding.”

Coding is typically guided by *coding guidelines*, referred to as a *Code Book* in pre-computerized approaches, as the instructions were written in a researcher’s notebook. Coding guidelines are comprised of notes and instructions to minimize the effects of human subjectivity among coders doing content analysis. While categorizing explicit mentions of key words is straightforward, the presence of synonyms, similes, metaphors, metonyms,¹ synecdoche,² and language usage such as nuance, sarcasm, and double-entendre require interpretation, which can vary among coders. Cultural factors can also influence interpretation, which may need to be noted. For example, in China the Volkswagen New Beetle was described in media as a “pretty lemon” (CARMA 2000), which was a positive term locally because of the Chinese association of oranges, mandarins, and lemons with health and fertility. In many Western countries, lemon is used as a colloquial term for a very poor quality car.

Coding guidelines are particularly important when more than one coder is involved, which is a recommended step for operationalizing quantitative content analysis (Neuendorf 2002). Coding guidelines are even more important for qualitative content analysis to achieve *credibility*, *dependability*, and some level of *transferability*, which contribute to the overall *trustworthiness* of qualitative research,³ as noted by Lincoln and Guba (1985), Shenton (2004), and others. Coding guidelines also help

1 Metonyms are names of places or things used to denote something else through a familiar association, such as using the term “White House” to refer to the President of the United States and his or her administration, or simply “Brussels” to denote the headquarters of the European Commission.

2 Synecdoche are terms for part of something that are used to denote the whole, such as saying “wheels” meaning a car or “hired hands” to refer to workers.

3 These key principles are noted because qualitative research does not achieve *reliability*, which is a quantitative research term denoting a high level of probability based on statistical analysis. However, research scholars point out that qualitative research can and should be rigorously conducted and meet these criteria.

maintain quality when content analysis considers latent as well as manifest content, as discussed in the following section.

3.2 Manifest and latent content

Berelson's (1952) definition of content analysis draws attention to the second major historical debate, or "controversy," in relation to this method: whether it focuses only on *manifest* content (what is visible in texts), or whether it takes into consideration *latent* messages and potential meanings as well (what is implied in texts). This has a bearing on whether content analysis is conducted quantitatively or qualitatively and informs how coding is conducted.

Manifest content is obvious – it consists of the words, phrases, and images such as photographs that appear in content. As noted previously, analysis of manifest content primarily relies on counting to identify how many times certain words, phrases, and images appear. In semiotic terms, analysis of manifest content is based on *denotation* – what is explicitly signified.

Neuendorf (2002: 23) describes the latent meanings of content as "consisting of unobserved concepts that cannot be measured directly." Berg (2007: 242) refers to analysis of latent content as "an interpretive reading of the symbolism underlying the physical data," which others refer to as *semantic analysis* (Neuman 2006: 326). For example, description of a government social or health policy only in term of its economic effects can be interpreted as revealing neoliberal values and ideology through what is unsaid (e.g., reference to quality of life and human well-being) as opposed to what is said. Latent analysis can also reveal conceptual frameworks that underpin what is written or said, such as deregulation, privatization, colonization, or technological determinism. Thus, coding of latent content seeks to understand *connotation* in semiotic terms.

Drawing on Berelson, Kim Schøder (2012: 113) says that "the quantitative analyst, then, can hope to avoid 'interpreting' his data only if he concerns himself entirely with 'manifest' or denotative, meanings and excludes connotative meanings." While agreeing that content analysis should be replicable and systematic, Krippendorff (2004) sees no reason why content analysis must be quantitative only. Schrøder (2012: 113) notes that Krippendorff "dismisses the exclusion of latent meanings from the researcher's legitimate horizon of interest."

Analysis of latent messages and potential meanings in content requires a qualitative approach, as it involves interpretation rather than simply counting. Thus, researchers who advocate analyzing latent as well as manifest content to understand the meanings of texts integrate qualitative and quantitative analysis. Media researchers Newbold, Boyd-Barrett, and Van Den Bulck (2002) note: "The problem [with quantitative content analysis] is the extent to which the quantitative indicators are interpreted as intensity of meaning, social impact and the like. There is

no simple relationship between media texts and their impact, and it would be too simplistic to base decisions in this regard on mere figures obtained from a statistical content analysis” (80). However, interpretation of connotative meaning requires careful procedures because of the human interpretation involved and the potential for misinterpretation.

4 Types of content analysis and its uses

Berelson (1952) suggested that there are five main purposes of content analysis:

1. To describe substance characteristics of message content;
2. To describe form characteristics of message content;
3. To make inferences to producers of content;
4. To make inferences to audiences of content;
5. To predict the effects of content on audiences.

Drawing on the work of Berelson and noting the use of content analysis in disciplines such as psychology and psychoanalysis, Neuendorf (2002: 53) summarized the four main approaches to, and roles of, content analysis as *psychometric*, *descriptive*, *inferential*, and *predictive*.

While psychometric refers to specialized medical and psychoanalytic uses of content analysis for interpreting the text of patient interviews or statements, the three other approaches are highly relevant to a range of applications, including media content analysis. The first and most basic role, descriptive, provides insights into the messages and images in discourse and popular culture represented in mass media. The inferential and predictive roles of content analysis allow researchers to go further and explore likely effects on awareness, attitudes, or behaviour among consumers of the content. However, researchers need to remain cognisant always that texts are *polysemic* – that is, open to multiple interpretations by audiences. This is further discussed in this chapter under Section 9, “Limitations of content analysis.”

5 Quantitative content analysis

While the preceding discussion shows that contemporary scholarship and research practice apply content analysis in both quantitative and qualitative ways, quantitative approaches are the most common. As Neuendorf (2002) notes, quantitative media content analysis should be conducted in accordance with the *scientific method*. This requires careful attention to research design and key steps in the analysis.

5.1 Sampling

Content analysis can be undertaken on a *census* – i.e., on all units in the sampling frame. This affords the greatest possible representation of the “message pool.” However, a census may not be possible in some cases, particularly in media content analysis where very large content volumes may be collected over a quarter or even a whole year. Therefore, for both time and cost reasons, researchers often need to conduct sampling.

Sampling for quantitative content analysis follows the procedures of quantitative research in most respects to achieve reliability and generalizability – hallmarks of the “scientific method.” Systematic *random*, *quota*, or *stratified* sampling are widely used. Several studies recommend that one of the most reliable methods of probability sampling for analysis of weekday media content, such as newspapers articles and TV news, is a stratified composite sample collected by selecting a sub-sample from certain days or weeks over a period of time (Riffe, Lacy & Fico 2005; Riffe, Lacy & Drager 1996; Riffe, Lacy, Nagovan & Burkum 1996). However, sometimes a *purposive* method focussed on the most relevant media is appropriate.

Media content for analysis is typically collected from specialist media monitoring service providers or organizations such as Lexis-Nexis or Factiva.

5.2 A priori design

The scientific approach to research requires *a priori* research design. In the case of content analysis, this means that “all decisions on variables, their measurement, and coding rules must be made before the observation begins” (Neuendorf, 2002: 11). This sounds counterintuitive and confuses many would-be content analysts, who ask “how can you know what the categories are until you have started doing the analysis?” Sometimes analysts succumb to the temptation to add one or more categories during quantitative content analysis as they discover new and unforeseen topics or messages in the content. Given that quantitative content analysis relies principally on counts of key words and phrases denoting or connoting topics or messages, this is problematic because items coded before the category was added may have contained the same or similar key words or phrases. Thus, the counts become unreliable if categories are added during analysis.

Research design requires a clear understanding of the two approaches to data analysis and how these are operationalized.

5.2.1 Deduction and induction

A key principle of the scientific method applied in quantitative research is deduction. A deductive approach starts by identifying hypotheses to prove or questions to

answer and, in the case of content analysis, categories into which data will be coded. In short, it begins outside the data and then processes data using logical reasoning and statistical calculations to ensure reliability, moving from the general to the specific. In quantitative content analysis, *a priori* identification of categories is informed by theory and previous studies in the field.

Inductive analysis starts inside the data and proceeds from specifics to the general by identifying key concepts, themes, and elements that exist in the data set and then grouping these into categories to identify patterns and explore how extensively they exist.

In colloquial terms, deductive reasoning is described as a “top down” approach systematically distilling data using pre-determined criteria, while inductive reasoning is a “bottom up” approach openly exploring what is in the data.

As Kuhn (1970) noted in his discussion of paradigms, the requirement for deduction to be based on theories and past research and bodies of evidence is limiting and can stifle innovation and new discoveries. So how is this potential omission of topics or messages overcome in quantitative content analysis?

This apparent dichotomy can be overcome in a number of ways. Neuendorf (2002) says: “Much as a survey researcher will use focus groups or in-depth interviewing (qualitative techniques) to inform his or her questionnaire construction, so may the content analyst use in-depth, often contemplative and incisive observations from the literature of critical scholars.” Furthermore, and importantly at a practical level, Neuendorf (2002: 102–103) suggests that a media content analyst can “immerse himself or herself in the world of the message pool” by conducting “a qualitative scrutiny of a representative subset of the content to be examined.” In other words, a preliminary reading of a sample of the content to be analysed can familiarize the researcher with the content. This, along with the hypotheses to be tested or research questions to be explored, can inform *a priori* design of the coding system.

5.3 Multiple coders

Even when content analysis is conducted using *a priori* design, deductive analysis, and coding based on detailed coding guidelines, scholars recommend the use of multiple coders as a further step to minimize the influence of subjectivity in coding. The use of multiple coders draws on the poststructuralist notion of *intersubjectivity* – that is, the argument that humans cannot be 100 per cent objective, but do arrive at shared subjectivities (i.e., agreement or consensus). The use of multiple coders ensures that, in the words of Howard Tinsley and David Weiss (1975: 359), “obtained ratings are not the idiosyncratic results of one rater’s subjective judgement.” The use of multiple coders allows assessment of the *reliability* of the analysis (see Section 5.4 in this chapter). The use of multiple coders also has a practical benefit in media content analysis as it speeds up the analysis of large volumes of content.

5.4 Intercoder reliability assessment

When multiple coders are used, it is important to conduct intercoder reliability assessment of a sample of items that have been double “blind coded.”⁴ This ensures that the obtained ratings are not the idiosyncratic results of two or more raters’ subjective judgements. Neuendorf (2002: 142) says: “There is growing acknowledgement in the research literature that the establishment of intercoder reliability is essential, a necessary criterion for valid and useful research when human coding is employed.” According to scholars specializing in the field, “the reliability sub-sample should probably never be smaller than 50 and should rarely need to be larger than about 300” (Neuendorf 2002: 159).

Several statistical formulae have been developed for measuring intercoder reliability. Researchers propose that coding by multiple coders should be compared at two levels: (a) agreement and (b) covariation. Neuendorf observes that “the best situation, of course, would be one in which coded scores are shown to have both high agreement and high covariation” (2002: 144). However, because even the slightest variation in coding constitutes non-agreement, agreement between coders is often difficult to achieve. Covariation assesses whether, when scores do vary, as they no doubt will in human coding, they go up and down together – i.e. whether there is consistency or a high level of variance.

In a comprehensive online content analysis resources site, Matthew Lombard, Jennifer Snyder-Duch, and Cheryl Campanella Bracken (2010) note that there are “literally dozens” of different measures or indices of intercoder reliability. Lombard, Snyder-Duch, and Bracken (2010), Neuendorf (2002), and a number of other researchers agree that the following, which calculate covariation on a 0–10 scale, are the most reliable and important:

- Scott’s *pi* (π);
- Cohen’s *kappa* (κ);
- Spearman’s *rho*;
- Pearson’s correlation coefficient (r);
- Krippendorff’s *alpha*; and
- Lin’s concordance correlation coefficient (r_c).

A recent study of three decades of reporting content analysis in three leading academic journals ($n = 672$) found that use of intercoder reliability assessment has increased, with Scott’s *pi* and Krippendorff’s *alpha* the most frequently used (Lovejoy, Watson, Lacy & Riffe 2016). However, intercoder reliability assessment is not widely undertaken in professional practice despite content analysis being one of the most

⁴ In double blind coding, two (or sometime more) coders code the same items without seeing each other’s coding.

used research methods for evaluation of media and communication campaigns (USC Annenberg and The Holmes Report 2016).

Several software programs are available to calculate intercoder reliability assessment, including statistics programs such as SPSS, which can assess Cohen's *kappa* (κ), and Simstat from Provalis Research, which can calculate intercoder reliability statistics. Specialist software programs have also been and continue to be developed for this purpose, including Popping's (1984) AGREE; Krippendorff's Alpha 3.12a; ReCal; and PRAM (Program for Reliability Assessment of Multiple Coders), which remains in Beta but is available free of charge from Kimberley Neuendorf at Cleveland State University (Lombard, Snyder-Duch & Bracken 2010).

Neuendorf (2002) notes that most basic textbooks on research methods in the social sciences do not offer a specific criterion or cut-off figure and those that do report a criterion vary somewhat in their recommendations. However, as a widely accepted rule of thumb she cites Lee Ellis, who says that correlation coefficients exceeding 0.75 to 0.80 indicate high reliability (1994: 91). Roel Popping (1988) suggests 0.80 or greater is required for Cohen's *kappa*, which he cites as the optimal measure, while Mousumi Banerjee et al. (1999) propose that a 0.75 score for Cohen's *kappa* indicates excellent agreement beyond chance. A review of intercoder reliability assessment by Neuendorf and several articles and online publications by Matthew Lombard, Jennifer Snyder-Duch, and Cheryl Campanella Bracken (2002, 2003, 2010) conclude that reliability coefficients of 0.80 or greater are acceptable to all and 0.75 is acceptable in most situations.

Strategies to maximize covariance among coders and address high variance if it occurs include comprehensive coding guidelines; pre-coding training to familiarize coders with variables such as issues and messages for analysis; pilot coding (doing a test or series of tests first); and review of the coding guidelines and retraining if necessary.

5.5 Quantitative data analysis

In addition to testing the reliability of coding, data analysis in quantitative content analysis employs statistical methods involving counts and calculation of percentages and means (averages), as well as modes and medians in some cases. Other quantitative data analysis techniques can include assessment of the statistical *significance* of findings using *t-tests* as well as calculation of *standard deviation* (SD).

Analysis is aided by data reduction and data display, as recommended by Miles and Huberman (1994: 11), who say "you know what you display." In quantitative content analysis, this typically includes production of line, bar, and pie charts, as well as histograms, scatter charts, and Venn diagrams. These can be produced in statistics programs such as Statistical Package for the Social Sciences (SPSS), or by exporting data into software applications such as Microsoft Excel for further manipulation. For example, A–Z sorting in an Excel spreadsheet allows data to be quickly ranked and

re-ranked by various criteria arranged in multiple columns. In this way, data can be interrogated and reduced to key findings.

5.6 Latent dirichlet allocation

Before examining qualitative content analysis, it is important to note a second, more recent approach to quantitative content analysis that uses natural language processing (NLP) to produce *topic models* based on *latent dirichlet allocation* (LDA). David Blei, Andrew Ng, and Michael Jordan (2003: 993), who developed LDA⁵ in the early twenty-first century, describe the process as:

A generative probabilistic [i.e., statistical] model for collections of discrete data such as text corpora. LDA is a three-level hierarchical Bayesian model, in which each item of a collection is modelled as a finite mixture over an underlying set of topics.

LDA allows the identification of major topics and their content in terms of the number of words related to each and estimation of the prevalence of those topics within documents and across multiple documents. Findings may then be presented as graphical models. Ken Benoit, who is a leading authority on quantitative content and textual analysis, uses LDA in an R-based application he co-produced called Quanteda (quantitative analysis of textual data) (Benoit et al. 2016). Quanteda uses quantitative statistical methods, but Benoit says that unstructured text (qualitative data) can be effectively and usefully turned into quantitative (i.e., statistical) findings, and reported accordingly. However, LDA is not widely used for media analysis.

6 Qualitative content analysis

Qualitative content analysis has adopted many of the techniques of textual analysis and in some forms is indistinguishable from this method of analyzing texts. As noted by Neuendorf (2002: 5–7), it also borrows techniques from rhetorical analysis, narrative analysis, discourse analysis, semiotic analysis, and interpretative analysis. Therefore, the procedures to apply in this type of analysis are informed by methodological literature in these neighbouring fields of interpretive research (e.g., Denzin & Lincoln 2008; Hijams 1996; Patton 2002; Silverman 2000), as well as in specific guides that support qualitative content analysis (e.g., Krippendorff 2004; Mayring 2000, 2014).

⁵ Jonathan Pritchard, Matthew Stephens, and Peter Donnelly (2000) are reported to have also developed latent Dirichlet allocation (LDA) around the same time.

6.1 Sample

Because qualitative research seeks in-depth insights and understanding of particular cases, characteristics, categories, or groups of people rather than statistical data such as means, medians, and modes, it does not require the use of probability sampling as applied in quantitative research. As Matthew Miles and Michael Huberman (1994: 29) point out, sampling strategies for qualitative research are informed by a conceptual question, not by concern for “representativeness.” For example, a study designed to gain insights into how stay-at-home dads are perceived by working fathers in the UK will justifiably select its sample from employed men with children in the UK. Similarly, a media content analysis undertaken to help evaluate an organization’s reputation might focus on media reporting read by its key stakeholders in its key markets, rather than all media or even a representative sample of media. Qualitative research is often undertaken to gain in-depth insights into particular cases, types, or groups, which necessitates a targeted sampling approach. As Bryman (1988) and others note, well-selected defined cases produce findings that have broad generalizability to particular *contexts*, or what is more appropriately referred to as *transferability* in qualitative research (Lincoln & Guba 1985; Shenton 2004).

Therefore, the most widely used method of sampling for qualitative research is *purposive* sampling (Riffe, Lacy & Fico, 2005: 99). Other methods of sampling for qualitative research include *typical case* sampling, *extreme* or *deviant case* sampling (also known as outlier sampling), *maximum variation* sampling, *revelatory case* sampling, and *critical case* sampling (Glaser & Strauss 1967; Patton 2002; Teddlie & Yu 2007). These methods illustrate the specific focus of qualitative research, compared with the broad generalizable approach of quantitative research.

The non-probability sampling methods used in qualitative research, along with the relatively small sample sizes used in this approach, are sometimes seen as introducing subjectivity and bias, which in turn raises questions about the credibility, dependability, transferability, and trustworthiness of the findings. Lincoln and Guba (1985), Shenton (2004) and others list these as requirements for qualitative research. However, non-probability sampling does not mean that there are no rules or guidelines. Purposive sampling and other targeted methods such as extreme, deviant, or revelatory case sampling must be based on a rationale that justifies why and how such cases are selected.

In situations in which qualitative analysis is used to broadly understand a field, Miles and Huberman (1994: 34) recommend a three-tiered sampling approach involving (1) selecting apparently typical/representative examples; (2) selecting negative/disconfirming examples; and (3) selecting exceptional or discrepant examples. By choosing a combination of typical, disconfirming, and exceptional examples for study, qualitative analysis can explore the boundaries of the data field and identify the range of views or statements, including discordant and extreme ones. Qualitative analysis often intentionally seeks to identify and understand the perimeters of a field,

including ‘outliers’, whereas quantitative analysis is *reductionist* (i.e., it reduces data to means [averages], medians, and modes).

6.2 Inductive analysis

Qualitative content analysis primarily uses inductive analysis, although mixed method approaches may use both deductive and inductive approaches. As noted previously, inductive analysis starts by examining the data to identify the topics, issues, and messages that most frequently occur, and then moves back and forth from identifying specifics in texts to making inferences about what those elements might reveal about the speakers, authors, or audience effects. Thus, inductive qualitative content analysis draws on grounded theory approaches (Glaser & Strauss 1967; Strauss & Corbin 1990).

Like quantitative data analysis, inductive qualitative analysis is aided by data reduction and data display techniques, although these are less statistical than quantitative data analysis. For example, qualitative content analysis findings can be illustrated using ‘word clouds’ that identify and highlight key themes and patterns. In addition to Miles and Huberman’s perennial advice that “you know what you display” (1994:11), Keith Punch says “... good qualitative analysis involves repeated and iterative displays of data” (1998: 204).

Within the hermeneutic tradition (i.e., interpretation), textual analysis and qualitative content analysis employ two main approaches. The first is *narratology*, which focuses on the narrative or story-telling within a text to interpret what meanings are likely to be produced by its structure and choice of words. The second draws on *semiotics* and focuses attention on signs and sign systems in texts and how readers might interpret (decode) those signs (Newbold, Boyd-Barrett & Van Den Bulck 2002: 84). Specific textual elements closely examined in qualitative content analysis include:

- Adjectives used in descriptions which give strong indications of a speaker’s and writer’s attitude (e.g., “poor” performance; “angry” shareholders; “satisfied” customers; etc.);
- Tonal qualities such as aggressiveness, sarcasm, flippancy, and emotional language;
- Figures of speech such as metaphors and similes;
- The presence of nuance, sarcasm, double-entendre, and other particular uses of language;
- Visual imagery in text; and
- Context factors such as the credibility of spokespersons or sources quoted and power differentials (e.g., experts vs. “lay” person).

Most commercial content analysis methods and systems categorize content as *positive*, *negative*, or *neutral* based on the above factors. Some go further and calculate a

score for *tone* or *sentiment* on a 0–10 scale or sometimes even on a 0–100 scale based on multivariate analysis such as the CARMA “favourability rating” (RMP Media Analysis 2014).

While such ratings are useful for indicating the overall qualitative characteristics of content, use of the term ‘sentiment’ in relation to content is problematic. Sentiment refers to human feelings (i.e., emotions) or a view or opinion that is held or expressed. While content analysis can make inferences about such matters, characteristics of content are not measures of sentiment. Tone is related to voice and speaking and is the more appropriate term to describe content such as media reporting and comments.

7 Computer programs for content analysis

Computers are used extensively in both quantitative and qualitative media content analysis and facilitate research procedures in several ways. In the first instance, with the increasing digitalization of content, computer applications are used for searching and retrieving content. Methods for accessing media content range from direct online media subscriptions and simple Google searches to use of specialist service providers such as Factiva and Lexis-Nexis.

Coding is now mostly recorded in computer applications, even when humans make the coding decisions. One of the first software applications for conducting content analysis was General Inquirer, developed by Philip Stone at Harvard University in 1961 (<http://www.wjh.harvard.edu/~inquirer>). Today there is a wide range of computer applications for conducting quantitative and qualitative content analysis. One of the most widely used such programs for academic content analysis is NVivo, part of the NUD*IST (non-numerical unstructured data indexing, searching, and theorizing) range of data analysis tools produced by QSR (<http://www.qsrinternational.com>). Other well-known applications for computer-assisted analysis of qualitative data (CAQDAS), also referred to as QDAS (qualitative data analysis software), include MaxQDA (<http://www.maxqda.com>); ATLAS.ti (<http://atlasti.com>); Worstat from Provalis Research (<https://provalisresearch.com>); Textpack; Textstat; Leximancer (<http://info.leximancer.com>); and the more recently launched QCAMap (<https://www.qcamap.org>).

There is also a range of more general text analysis applications that can be used for media content analysis. These include proprietary applications such as IBM Text Analytics, SAP Text Analytics, and SAS Text Analytics packages, as well as open source Web-based applications such as R, described as a text mining and sentiment analysis package (<https://www.r-project.org>).

In the commercial sector, service providers that offer quantitative and qualitative media content analysis include CARMA, which takes its name from “computer aided research and media analysis” (<https://www.carma.com>); Gorkana in the UK ([EBSCOhost - printed on 2/9/2023 2:39 PM via . All use subject to <https://www.ebsco.com/terms-of-use>](http://</p>
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www.gorkana.com), which is part of the US-based Cision Group; Kantar Media, which operates in the UK, USA, and throughout Europe (<http://www.kantarmedia.com>); and Isentia, which operates across Asia Pacific (<http://www.isentia.com>).

7.1 Automated coding and analysis

Recently, several application developers and service providers have adopted machine learning based on natural language processing (NLP) to automate coding and analysis of media and other forms of content. Some fully automate coding and analysis, while others incorporate *active machine learning* to partially automate processes. An example of this is Method52, developed by the University of Sussex in collaboration with DEMOS. “Active” machine learning involves the use of algorithms that can be run to retrieve and categorize unstructured textual content, but which allows the researcher to correct the algorithm to fine-tune its interpretation of the content. Active learning is usually accomplished through a series of tests on sub-samples of the content to be analyzed, in which the researcher examines the categorizations made automatically by the algorithm and makes adjustments – what the developers refer to as “marking the homework”. In active learning systems, the researcher remains in charge of the analysis, unlike fully automated systems.

7.2 Human vs. computer coding

While computers are highly efficient and effective for retrieving content, and recent developments in NLP and active machine learning indicate that they can automate some aspects of coding and analysis, most researchers reject the concept of fully-automated content analysis. Even in the case of quantitative content analysis, Neuendorf (2002: 40) says that “the notion of the completely ‘automatic’ content analysis via computer is a chimera ... The human contribution to content analysis is still paramount.” Here she is referring to the ability of humans to understand nuance, figures of speech that should not be read literally, sarcasm, and other characteristics of language that, despite development in neurolinguistic programming and artificial intelligence, remain beyond the capabilities of computer software.

In addition, Neuendorf points to the problem of “black box measurement.” Most automated software programs and service providers using such systems do not reveal the details of their measures or how they construct their scales and indexes. The researcher enters text into “a veritable black box from which output emerges” (Neuendorf 2002: 129). This is inconsistent with the scientific method of research that requires replicability as well as transparency and disclosure of how results are obtained.

In the case of qualitative content analysis, fully automated coding and analysis is even more problematic. For example, despite the ability of algorithms to “learn,” Neuman gives the following example of the word “red” and how it can be used with multiple nuances that are not likely to be visible to a computer:

I read a book with a red cover that is real red herring. Unfortunately, its publisher drowned in red ink because the editor couldn't deal with the red tape that occurs when a book is red hot. The book has a story about a red fire truck that stops at red lights only after the leaves turn red. There is also a group of Reds who carry red flags to the little red schoolhouse. They are opposed by red-blooded rednecks who eat red meat and honour the red, white and blue. (2006: 325–326)

Furthermore, and perhaps most important of all, computers cannot consider the *context* of content – that is, what is outside the text and relevant to its interpretation. They only view the text, which can result in narrow and incomplete interpretations of its likely meaning and effect.

8 Benefits of content analysis

One of the major benefits of media content analysis is that it is a non-intrusive research method (Neuman 2006). By analysing the content of media reporting and social media comments, researchers can identify topics and issues that are the subject of debate and/or public concern, and explore discourses by tracking the frequency and dominance of certain ideas and messages, without direct human contact. Furthermore, content analysis can inform inferences about the policies, views, and intentions of various sources, as well as potential audience effects, without directly contacting those sources. This can be important when sources are difficult to reach or unwilling to participate in research. Today, many surveys receive low response rates because the targeted groups are “over-researched” and suffering “survey fatigue.” In some cases, such as an organization wanting to understand the views or activities of its competitors, direct research methods are impractical, and non-intrusive methods such as media content analysis may be the only option.

Another benefit of content analysis is that it can be conducted frequently to longitudinally track issues, topics, and spokespersons, whereas audience research, such as large-scale surveys, are usually restricted to annually or even every few years because of their cost.

9 Limitations of content analysis

While noting its benefits, users of content analysis need to heed Neuendorf's warning that inferences cannot be made as to producers' intent or audiences' interpretation

from content analysis alone. Neuendorf (2002) argues that an integrated approach is required involving the use of content analysis with other research, such as audience studies. Similarly, Newbold, Boyd-Barrett, and Van Den Bulck (2002: 16) point out that the meanings of texts for audiences cannot be accessed through analysis of the texts.

In discussing media research broadly, Arthur Berger (2014) identifies four main analysis techniques: semiotic analysis, Marxist analysis, psychoanalytic analysis, and sociological analysis. While the first focuses on texts and the second involves a critical approach, both psychoanalytic and sociological analysis involve audience research, which remains important in media and communication scholarship and practice.

10 Conclusions

Media content analysis draws on the rich heritage of content analysis within both the quantitative and qualitative traditions of this research method. Given the important role of media in societies as sources of information and influence as well as reflections of spokespersons' and public opinions, media content analysis provides a non-intrusive method for identifying views, concerns, and discourses. However, the complex range of factors that influence and shape opinion and the contingent, contextual nature of media effects need to be borne in mind in drawing inferences and predictions from media content analysis. Media content analysis is a valuable method for gaining insights, but usually needs to be conducted in conjunction with other research methods such as audience surveys, interviews, or focus groups to gain a full understanding of message reception, perceptions, attitudes, intentions, and the ultimate impact of communication.

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Thomas B. Ksiazek

12 Ratings Analysis

Abstract: Ratings analysis is a method for capturing and measuring media exposure. Understanding audience behavior through measures of exposure is crucial to the operation of media industries. This chapter offers an overview of common data gathering techniques used in ratings analysis, including the historical evolution of measurement technologies and current challenges and opportunities. It then moves to a treatment of metrics and analysis, before discussing the engagement turn in ratings analysis, which characterizes recent efforts to expand beyond media exposure to capture deeper forms of psychological and behavioral engagement with media. The chapter concludes with some common applications of ratings analysis.

Keywords: ratings; audience; audience measurement; audience analysis; cross-platform media use; engagement

Ratings analysis is a method for capturing and measuring media exposure. Due to its origins in broadcast media, a “rating” has traditionally been understood as the percent of people exposed to some form of television or radio programming, typically a program or channel. More recently, the concept has broadened to capture the percent of the population exposed to any form of mediated communication (Webster, Phalen & Lichty 2014). As technological platforms for the distribution and consumption of media expand and converge, ratings analysis has adapted to capture media exposure in all its forms.

Ratings analysis underpins financial and strategic decision-making in the media industries. Understanding audience behavior through measures of exposure is crucial to the operation of media companies (producers, distributors) and related industries (advertising, marketing, political campaigns). Academics regularly use ratings as variables in their analysis, as both antecedents and outcomes, as well as general explanatory and control variables.

This chapter offers an overview of common data gathering techniques used in ratings analysis. It then moves to a treatment of metrics and analysis, before discussing the “engagement turn” in ratings analysis, which characterizes recent efforts to expand beyond media exposure to capture deeper forms of psychological and behavioral engagement with media. The chapter concludes with some common applications of ratings analysis.

1 Data gathering techniques

The techniques used to gather ratings data originated in the first half of the twentieth century and have experienced rapid technological development over the past few

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decades. The following sections outline the historical evolution of these techniques and discuss current challenges and opportunities.

1.1 Historical evolution

Ratings analysis originated in conjunction with the emergence of advertising-supported mass media. As media companies sought to quantify, package, and sell their audiences to advertisers and sponsors, market research firms began measuring and providing ratings estimates to radio stations, and eventually television networks.

Early methods for capturing radio ratings relied on interviews and questionnaires. Webster, Phalen and Lichty (2014) trace the early competition between Crossley Ratings and Hooperatings in the 1930s. The former relied on telephone recall, where listeners were asked to recall the radio programs they heard in the past several hours. To mitigate the potential for recall error, Hooperatings used coincidental interviews, calling listeners and asking what was playing on the radio at that moment. Hooperatings became the preferred method due to improved accuracy.

By the late 1940s, diaries began to replace phone interviews in the collection of ratings data. These small booklets were mailed to respondents with monetary incentives asking them to keep a precise and detailed diary of radio listening, and later television viewing, for an entire week. Diaries ask respondents to log their exposure in 15-minute increments throughout the week, and are typically administered during “sweeps” periods. For instance, to collect local TV ratings, The Nielsen Company sweeps media markets throughout the United States four months of the year (February, May, July, and November). In these months, diaries are sent to large random samples each week and then the four weeks are aggregated to produce ratings data in local media markets. Diaries are still used today, although more advanced methods have steadily replaced diaries in media markets across the country.

Like any data collection procedure, diaries have benefits and limitations. They are a simple, cost-effective way to gather detailed listening and viewing data from large samples. At the same time, diaries suffer from the typical limitations of any method for capturing self-reported behaviors. There is evidence of nonresponse error, respondent fatigue due to the tedious nature of diary completion, and recall error. The latter includes both underreporting (especially for children’s programming, late-night programming, and short viewing stints) and overreporting (e.g., news and already popular programming) (Webster, Phalen & Lichty 2014).

To address some of the limitations of diaries, particularly regarding respondent error, electronic meters were introduced and have since become the preferred method for collecting ratings data. Meters are passive devices that capture viewing and/or listening behavior. The first metering technology was the household meter.

For participating households, a meter was attached to their television and passively recorded viewing. This technology was more costly than diaries, but came with improved accuracy. The primary limitation of household meters was the lack of person-level data, and by the late 1980s people meters had replaced household meters as the primary means for capturing television viewing.

People meters were developed by The Nielsen Company to leverage the benefits of metering technology (accuracy, efficiency), while also providing a way to capture exactly who was watching. However, the process involves more work on the part of participating households. Viewers are asked to identify themselves when they turn on the set and on-screen prompts inquire whether the same individuals are still watching throughout the viewing session. Some limitations of people meters include underreporting by children and button-pushing fatigue (Webster, Phalen & Lichty 2014).

In recent years, more advanced metering technologies have emerged. Portable people meters (PPMs) were first developed by Arbitron, the leader in radio ratings measurement for much of the latter half of the twentieth century in the United States (Arbitron was recently acquired by Nielsen). The PPM is a pager-sized device that panel participants wear throughout the day. The technology works by capturing inaudible watermarks that consist of identification codes embedded by the broadcaster in the audio signal. Originally, the data was sent back for processing through a docking station on a nightly basis, but recently the PPM 360 was introduced to allow for real-time data transmission through cellular phone technology. This passive metering technology has become the preferred method for collecting radio ratings. The accuracy and real-time data collection and processing address some of the key limitations of diary collection. Perhaps most importantly, a great deal of radio listening occurs in the car, where diary completion is simply unfeasible, at least not without substantial concerns about recall error. PPM technology affords the opportunity to capture listening behavior on the go and transmit data in real time to radio broadcasters.

In addition to measuring radio, PPMs have also become the preferred method for capturing out-of-home television viewing. This is particularly important for news and sports programmers, where for years they were unable to accurately capture viewing in places like restaurants or bars, hotel lobbies, gyms, and airport lounges. With the emergence of PPMs, these viewing estimates are now included in ratings data and have shown significant bumps in viewing for networks like CNN (Shimmel & Doe 2012).

Set-top-box (STB) data is part of a growing trend toward relying on Internet-connected devices to collect ratings data. Most subscribers to major cable and satellite television providers use digital set-top boxes in their homes. These devices can provide click-by-click tuning data revealing exactly what a household is watching. While this passive method is incredibly precise, it suffers from the inability to capture person-level data. As this sort of server-centric digital measurement expands (not only for television, but also for Internet use more broadly), analysts and researchers must weigh the benefits in terms of precision and accuracy with the limitations of device-based measurement.

1.2 Current challenges and opportunities

STB data provides clear challenges and opportunities for advancing ratings analysis. Using device-specific measurement that relies on computer servers to collect information about the programming that is served to a particular set-top box offers incredibly detailed and precise viewing information. Related, a key advantage of this approach is the ability to capture time-shifted viewing, as well as viewing of programs from on-demand, streaming content libraries. STB measurement also produces “big data,” or massive data sets that include a full census of users. However, any STB census will be limited to a particular service provider, and so the generalizability of these data sets often comes into question. Additionally, the data is limited to the household level, which some see as a step back to the days of household meters (i.e., before the development of people meters). To address these concerns, analysts are increasingly merging server-centric data (e.g., STB data) with user-centric panel data to overlay more detailed, individual data (e.g., demographics).

The number and nature of devices used to access television programming has grown exponentially in recent years. In particular, the growth of over-the-top (OTT) devices has created a number of challenges for capturing ratings data. OTT devices are internet-connected technologies that provide access to streaming video content. At the time of this writing, the most common OTT devices include Apple TV, Roku, Google Chromecast, Amazon Fire TV, and gaming consoles (e.g., XBOX, Playstation). In order to produce accurate ratings, measurement firms are developing ways to capture viewing across all devices and platforms. These are often called cross-platform or “TV Everywhere” efforts. As one example, The Nielsen Company recently introduced Total Content Ratings (TCR) to integrate data across traditional television, video on-demand, out-of-home viewing, and OTT devices (The Nielsen Company 2017).

One of the challenges with cross-platform measurement is authentication, as it pertains to both users and advertisements. Measurement firms are working to develop ways to identify users as they navigate across platforms, devices, and services. The current approach is to require login credentials to authenticate subscriptions. For instance, if a user wants to access one of their cable/satellite channels through their Apple TV or Roku device, they need to log in through their cable/satellite provider to authenticate their subscription. Regarding advertising, measurement firms are developing ways to identify ad loads across platforms to capture both matching and non-matching advertisements (i.e., ads on a digital service that do and don't match the ads on the original broadcast).

Related to the alternative ways users are accessing video content, many households are engaging in cord-cutting (canceling their paid television subscription) or cord-shaving (reducing the number of channels in their subscription as a cost-saving mechanism). This further complicates the television landscape, as viewers are often replacing their over-the-air and cable viewing with subscriptions to video streaming services like Netflix, Hulu, and Amazon Prime. These subscription-based

services are less interested in ratings because they are not ad-supported. Instead, subscriptions are the key performance indicator for these services.

As for radio, satellite services (e.g., Sirius XM), podcasts, and internet streaming radio are complicating the traditional approaches for capturing radio listening behaviors. As is the case with television, there is a clear need for cross-platform integration in audience measurement. As users increasingly access content across a variety of services and devices, measurement needs to follow.

Privacy concerns introduce a more general challenge to passive audience measurement. As users become more aware of behavioral tracking through device-based measurement, privacy concerns introduce additional validity concerns as users employ technologies to limit the ability to record and retain information about media use. Governments are also getting involved. For instance, in 2018 the EU passed the General Data Protection Regulation (GDPR) to give users more control over their data privacy, simplify the regulatory process (along with stricter fines for non-compliance), and make the collection of user data more transparent.

2 Metrics and analysis

The primary data collection techniques discussed above produce several key ratings metrics. While ratings generally indicate popularity, or the percent of people exposed to some form of mediated communication, there are many variations of ratings. This section discusses the most common ratings metrics and analytical considerations.

Table 1 lists and defines several ratings metrics. For ease of interpretation, the emphasis is on television, although most of these measures could easily be converted to radio measurement, or any other form of mediated communication.

Table 1: Ratings metrics.

Metric	Formula
Rating	HH tuned to channel/Total TVHH
Quarter-hour Rating (QH)	TVHH watching 5+ minutes in a quarter hour/Total TVHH
Average Quarter-hour Rating (AQH)	Sum of quarter-hour ratings/number of quarter hours
C3/C7/C35 Rating	Total minutes TVHH or persons spend watching commercial content in a program including 3/7/35 days of replay/Total TVHH or persons
Digital Content Ratings (DCR)	Ratings across desktop and mobile devices
Total Content Ratings (TCR)	Ratings across live television, DVR, on-demand, OTT devices, desktop and mobile

Source: (Webster, Phalen & Lichty 2014)

Notes: HH = households; TVHH = television households; Ratings are typically converted to percentages and then expressed as whole numbers.

A rating is calculated by dividing the number of households tuned to a given channel by the total number of television households (often called the TV Universe). This is the most basic form of a rating and the one that is most commonly seen in public reports of TV ratings. While ratings are typically expressed as a whole number, they indicate percentages (i.e., a rating of 10 means 10% of households watched). Quarter-hour (QH) and Average Quarter-hour (AQH) Ratings are common in local television measurement. These metrics are also widely used in radio measurement.

Commercial minute ratings (C3/C7/C35) have recently become commonplace in the buying and selling of advertising, with C3 ratings currently the most widely used. This measure captures the average rating across all commercial minutes in a program (not individual commercials), including three days of time-shifted viewing. An important difference with commercial minute ratings is that they capture commercial viewing, not program viewing. While traditional ratings metrics tell us how many households or people watched a program or channel, commercial minute ratings tell us how many watched the commercials.

The introduction of commercial minute ratings was met with a great deal of resistance and eventually negotiation in the industry (Napoli 2011). Advertisers had always wanted commercial ratings, while networks wanted to get credit for time-shifted viewing. In general, TV networks prefer longer date-ranges, which allow for more viewing and higher ratings. Advertisers prefer shorter date-ranges, especially for time-sensitive commercials. For instance, a retail advertisement that airs on Thursday night for an upcoming weekend sale is useless if a viewer records the program and watches it on their DVR the next week.

For now, networks and advertisers have compromised and agreed on C3 as the industry standard. In recent years, some deals between networks and advertisers have used C7 ratings, which are the same as C3 ratings except they count seven days of time-shifted viewing. Networks have also begun requesting C35 ratings to allow for DVR, on-demand, and OTT viewing well beyond a one-week period. Unsurprisingly, many TV networks see major increases in audience estimates when they use C35 (O'Connell 2016).

The current trend in ratings metrics is toward cross-platform integration, with the recent introduction of Digital Content Ratings (DCR) and Total Content Ratings (TCR). The former captures audiences across digital devices (desktop and mobile), while the latter includes digital devices, as well as traditional live TV viewing, video on-demand viewing, DVR, and OTT devices.

2.1 Cross-sectional vs. longitudinal analysis

As with most social scientific methods, ratings analysis can provide both snapshots and over-time insights. This distinction is built into many metrics for capturing audience data. Webster, Phalen and Lichty (2014) distinguish between “gross” and “cumulative” measures (See Table 2 for examples).

Table 2: Gross vs. Cumulative metrics.

Gross	Cumulative
Ratings	Cume ratings
Market shares	Reach/Unique visitors
Impressions	Frequency
Views	Time-spent viewing/listening (TSV/TSL)
	Audience duplication

Gross measures include many of the ratings discussed above, as well as shares, gross impressions, and view counts. Cumulative measures include cume ratings, or the percent of households/people exposed over some period of time. These longitudinal measures also include reach and frequency, indicating the number of unique people exposed and how often they are exposed, respectively, over a period of time.

Two additional cumulative measures warrant discussion. Audience researchers are often interested in how long people spend with media, which is captured with time-spent metrics. Time-spent is commonly considered evidence of the level of engagement with media (discussed in more detail below). Finally, audience duplication is a measure of audience overlap across multiple outlets. Duplication can be understood in two ways. Primary duplication is the percent of the audience for one outlet that is also exposed to another outlet. Absolute duplication is the percent of the total audience that is exposed to both outlets in a given pair. See Ksiazek (2011) for a more detailed discussion and examples of these two variations on audience duplication.

2.2 Cross-platform challenges

Much like the data collection procedures discussed above, common ratings metrics also face cross-platform challenges. For instance, at the time of writing Digital Content Ratings (DCR) and Total Content Ratings (TCR) are only just being introduced to the market. As with the introduction of any new “market information regime” (Anand & Peterson 2000; Andrews & Napoli 2006) or “audience information system” (Napoli 2011) for capturing audience behavior, resistance is only natural. This is especially the case for those who see lower ratings with the transition to a new standard (Napoli 2011).

In the case of TCR, one of the primary methodological concerns of both content providers and measurement services is the “de-duplication” of users. In traditional ratings analysis that uses panels to collect data, ensuring the audience is unduplicated is relatively straightforward. However, with the integration of multiple platforms, devices, and services it becomes more complicated to ensure that each user is only counted as a viewer once. To illustrate the duplication problem, it is common

to hear claims about YouTube videos with extremely high view counts. These can be misleading, since those view counts do not eliminate duplicated viewing. As a simple illustration, for a YouTube video with 100 views, we do not know if that count comes from 100 unique viewers or 10 viewers watching 10 times each.

One solution to this issue of duplicated users is the use of authentication procedures that require users to log in before viewing. As long as an individual has a paid subscription for a particular TV channel, (s)he can log in and identify her/himself, affording the opportunity to identify unique users. Yet, the practice of authentication comes with its own set of issues. For instance, concurrent viewing is seen as a threat to traditional television subscription models. For most cable/satellite providers, there are no limits on the number of users that can log in under the same subscription credentials. These concurrent viewers may simply be family members in different locations, which providers do not want to discourage. However, concurrent viewers could also result from shared or stolen credentials and constitute illegitimate users in the eyes of providers and networks (essentially pirating content). As video consumption shifts more and more to digital platforms and OTT devices, issues around authentication and concurrent viewing are front and center in carriage negotiations between TV networks and cable/satellite providers. Many networks are hoping to model video streaming services like Netflix that offer subscription tiers with varying concurrency allowances (e.g., one, two, or four concurrent screens).

3 The engagement turn

In recent years there has been a push in audience research to move beyond simple measures of exposure, like ratings, and capture something deeper about user experiences with media. These are usually captured under the umbrella term “audience engagement.” Across fields, disciplines, and industries, both scholars and practitioners have struggled to find consensus on what it means to engage with media or engage with an organizational entity vis-a-vis media. For instance, Napoli (2011) identified twenty different definitions of engagement used in industry and academic research.

There are some consistencies across these definitions that suggest a general conceptual model of engagement (Figure 1). Most conceptualizations understand engagement as either behavioral or psychological (cognitive/emotional), or both (e.g., Brodie et al. 2013; IAB 2015). Regarding the latter possibility, many assume that the psychological dimensions of engagement underpin behavioral engagement. In addition to these dimensions of engagement, many conceptual definitions propose a continuum from less to more engagement (e.g., Ksiazek, Peer & Lessard 2014; Napoli 2011). Figure 1 integrates both approaches, accounting for the most commonly cited dimensions of engagement – behavioral and psychological (cognitive/emotional) – and allowing for varying degrees of engagement along a continuum.

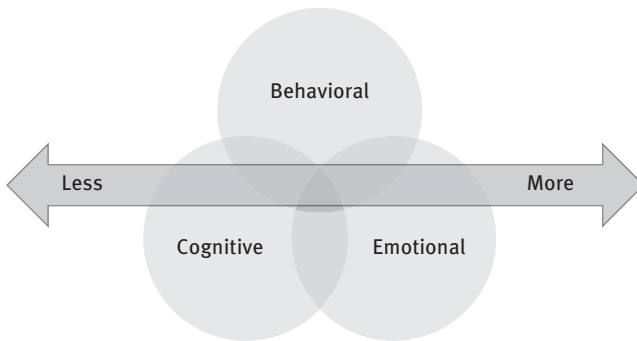


Figure 1: Conceptual model of engagement.

To better illustrate the usefulness of this conceptual model, Table 3 lists commonly used metrics for capturing audience engagement. The metrics are organized across the three dimensions and each indicator of engagement can range from low to high levels. To illustrate, audience awareness and recall are common measures of cognitive engagement with advertising. A lesser or greater ability to recall the brand or messaging suggests something about an individual's level of engagement with the advertisement, beyond simple exposure.

In addition to cognitive engagement, emotional engagement constitutes the other type of psychological engagement. A trend we see is that technological advances in audience measurement are enabling us to capture and quantify what have traditionally been considered more qualitative indicators of psychological audience engagement. For instance, sentiment is an increasingly popular indicator of emotional engagement, due to advancements in automated content analysis tools and software that enable text mining of big data. Sentiment is commonly captured by the frequency of positive/negative terms in a given set of text (e.g., tweets or other social media posts). These scores can be aggregated to say something about the overall sentiment toward a brand or organization. The use of physiological indicators of engagement is another growing area. Advancements in biometric tracking (e.g., heart-rate monitoring), brainwave scanning, and facial recognition software have enabled innovative ways to capture psychological indicators of emotional engagement.

In the conceptual model above, psychological engagement underpins behavioral engagement. In other words, most behavioral engagement metrics are interpreted with regard to what they say about an individual's psychological engagement. For instance, time-spent metrics (and gaze time/rate metrics captured through eye-tracking software) not only tell us about the level of behavioral engagement, but we can infer a deeper level of psychological engagement based on higher levels of time spent. Other behavioral engagement metrics include return visits (capturing loyalty/recency), average number of page views (and bounce rate – the percent of site visits that leave after one page view), interactions (e.g., comments), video completion

(i.e., beyond simple view counts to measure completion rates) and a variety of social media metrics (e.g., likes, follows, shares, recommendations). Like our psychological indicators, these behavioral engagement metrics also exist along a continuum. Not only can each metric vary from low to high (e.g., low/high time spent or average page views), but the metrics themselves also vary from low to high engagement. For instance, “liking” a friend’s social media post is a relatively simple behavior (i.e., low engagement), while commenting might signal a higher degree of behavioral engagement due to the necessary psychological (cognitive/emotional) engagement required to craft a comment.

Table 3: Engagement metrics.

Cognitive	Emotional	Behavioral
Awareness	Interest/Appreciation	Time-spent/Gaze Time/Gaze Rate
Recall	Positive/Negative sentiment	Loyalty/Recency (return visits)
	Physiological Response	Bounce-rate/Average page views
	Brand Perception	Total Interactions/Interaction Rate/Interaction Time (comments, contributions, participation)
		Clicks/Click-Through Rate/Taps/Swipes
		Video completion
		Social:
		– Likes
		– Follows
		– Shares
		– Recommendations

4 Applications

As noted in the introduction to this chapter, ratings analysis impacts decision-making in the media industries, where the ultimate goal of any media organization is to reach an audience. Understanding audience behavior is critical to the operation of media companies (producers, distributors) and related industries (advertising, marketing, political campaigns).

To illustrate, measures of audience duplication (discussed above) can suggest program or channel loyalty (e.g., if we see high levels of duplication across episodes or programs on a channel, respectively). Audience duplication also helps practitioners map audience flow. For instance, television programmers have long relied on assumptions about inheritance effects (i.e., lead-in/lead-out duplication, where the audience for one program is disproportionately present in the audience of the previous/next program) to make strategic scheduling decisions. Duplication has been adapted to capture internet traffic flows as well. Most syndicated measurement services provide

upstream/downstream traffic patterns (also called source-and-destination reports). These help practitioners understand where their users are coming from and where they go next. This same application can be used to understand traffic flows within a domain (i.e., how your users flow through your site or app, from page to page).

Other measures like reach and frequency are widely used to assess the performance of messaging campaigns. Reach and frequency can be multiplied to produce Gross Ratings Points (GRPs), which is a summary measure of impressions used to predict and assess a campaign over time. For instance, a reach and frequency curve illustrates a consistent pattern where reach grows quickly at the beginning of a campaign (as heavy users are exposed), before flattening out over time. It takes many more airings of an advertisement or other messaging campaign to reach lighter users, but during that time frequency grows as the initial people exposed are now seeing the message multiple times.

As noted in the previous section, industry practitioners are shifting toward greater integration of engagement metrics. The consensus is that practitioners should resist a “one size fits all” approach to choosing the best metrics to capture their audience (Napoli 2011). Instead, Napoli (2011) advocates for a “basket of currencies” approach, whereby audience behavior is captured through a customized mix of metrics tailored to a particular organization, product, and/or audience.

Additionally, academics regularly use ratings as variables in their analysis, as both antecedents and outcomes, as well as explanatory and control variables. We see the applicability of ratings analysis across several chapters in this volume. Many theoretical perspectives in media research are informed by ratings analysis (see chapters: Media Effects, On Media Usage, Theoretical Perspectives on Audience Behavior, Audience Reception). Additionally, ratings analysis also applies to many chapters in the Contexts section (e.g., Mediated Violence, An Examination of Racial/Ethnic Inclusion in the Media and the Implications of Exposure on Audiences, Civic Engagement, The Effects of Political Advertising, Media Regulation and Policy), as well as the Contemporary Issues section (Exposure Diversity, Theoretical and Methodological Implications of Big Data).

Further reading

For comprehensive treatments of the current state of ratings analysis, please see Webster, Phalen and Licthy’s (2014) *Ratings Analysis: Audience Measurement and Analytics* (4th edition), as well as Napoli’s (2011) *Audience evolution: New technologies and the transformation of media audiences*. Webster et al. (2014) has become the standard text for both undergraduate and graduate courses in audience analysis, covering audience measurement, analytics, and applications. Napoli (2011) offers a thorough discussion and critique of contemporary trends in both audience behavior and audience measurement.

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13 Surveys

Abstract: This chapter describes contemporary methodological approaches and challenges in the use of surveys for mediated communication research. This chapter discusses how to evaluate the reliability and validity of a survey; how to plan an implement survey research; and how to use survey research correctly. The concept of Total Survey Error (TSE) is used to guide the discussion. This chapter examines both traditional and online approaches to survey research, and delves deeply into specific issues such as survey sampling, questionnaire design, data collection, and hypothesis testing.

Keywords: survey research, sampling, questionnaire design, Total Survey Error, election surveys

1 Introduction

Survey research is relevant in various ways to the entire discipline of communication but is used most extensively in the subfields of political and mass communication research that deals with media effects on public opinion, as well as work in health communication that is concerned with population outcomes and processes. Surveys can provide important data that help scholars understand the media choices that people make, the factual knowledge they learn, the misperceptions they may hold, as well as their attitudes about important public policies and political candidates. Major political surveys provide much of the knowledge we have about what issues people think are important, opinions of the various candidates, how people understood the stakes in an election campaign, and how trustworthy were the candidates. Surveys provide critical evidence to understand if and how people voted in elections as well as their reasons for doing so. In the realm of health communication, priority questions are often focused on people's risky health practices and how new information might be useful in adopting more appropriate attitudes and behaviors. An important macro outcome in communication research is often focused on gaps in knowledge, attitudes, or behaviors and how these might be reduced through communication interventions.

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This chapter does the following:

- Introduces the elements that communication researchers should consider when evaluating the likely reliability and validity of a survey;
- Provides information on how to plan and implement survey research and how to use survey information correctly; and
- Discusses the Total Survey Error (TSE) framework, a well-accepted and rigorous approach to evaluating a survey's reliability and validity.

1.1 What is a survey?

In formal terms, and when it is used as a noun, a “survey” is a research method for gathering information from a population of interest (or target population) using a questionnaire or some other means for data collection. In many cases, the term *survey* is used as a verb and refers to gathering information from and about individuals.

Surveys have two principal attributes:

- **Sample elements.** The researcher identifies a sample from the larger population of interest and then gathers data from or about each of the elements (e.g., people) chosen.
- **Instrument.** The researcher collects survey data by means of some structured tool or instrument, most often a questionnaire.

A scientific survey – one that is likely to be reliable and valid – uses an established process that one can understand, document, and replicate and employs rigorous statistical and methodological principles to conduct the sampling (e.g., using probability sampling methods), recruit participants, create the data collection instrument, gather data with that instrument, and analyze the survey data.

1.2 Planning the survey and identifying its purpose

Planning a scientific survey requires consideration of the research question(s) that will elicit the information needed to address the relevant purposes and/or hypotheses of the research. The research topics and testable hypotheses guide the researcher in deciding how to conduct the survey. During the planning phase, researchers select the research design (e.g., cross-sectional design versus longitudinal design; experimental design versus nonexperimental design) and the mode(s) of data collection. At this stage, researchers also evaluate approaches to avoid and/or account for potential nonresponse (i.e., the failure to gather data from or about sampled elements) and its effects. Such approaches may include multiple attempts to contact hard-to-reach respondents, the use of interviewers rather than self-administered surveys, and the use of noncontingent and/or contingent incentives.

1.3 Designing and selecting the sample

The research topics identified in the planning phase provide the basis for the sampling design and selection of elements. One's sampling design first requires the proper identification of the target population and the compilation or selection of an appropriate *sampling frame* (i.e., a list of the target population) from which to select a sample.¹ The researcher can then create a *probability sampling design*² using statistical sampling principles and use it to draw a sample. At this stage, the researcher also determines the *sample size* necessary to meet the study objectives. As part of conducting a survey or evaluating the approach used by another researcher, the researcher identifies the sampling frame, which is a list of members of the target population or a way to identify members of the target population. The researcher also identifies the survey mode(s) for recruitment contact – in-person, telephone, Internet, or regular mail – that would be most cost-effective in gaining cooperation from the sampled respondents. The researcher then determines the sampling method (e.g., simple random sample, stratified sample, systematic sample, cluster sample, etc.) by which to select the initially designated sample from the target population. Some attrition from the initially designated sample is likely to occur because of the nonresponse that is bound to occur during the recruitment phase. Consequently, the researcher decides the final sample size required for the survey, and then the researcher estimates an initially designated sample size large enough to achieve the final sample size. There are many surveys in which the initial sample is many times larger than the final sample due to nonresponse.

1.4 Designing the questionnaire

Based on the identification of research topics, i.e. hypotheses, and research design, the researcher designs the questionnaire using accepted methods for creating survey questions (or so-called survey “items”). The researcher applies questionnaire design principles to minimize bias and variance that poorly constructed survey questions can introduce into the data. Often, the research team conducts a pilot test of the questionnaire to identify and revise questions that can be confusing to or misunderstood by respondents. Researchers complete the pilot test before collecting the survey

¹ When all elements in the target population are chosen for measurement, a *census* is being conducted, not a sample survey. The chapter focuses on sample surveys, although many of the topics that are addressed also apply to censuses.

² Probability samples are ones in which all elements on the sampling frame have a nonzero probability of being selected and the researcher knows the probability of selection for all elements. The probability of selection need not be equal for all elements.

data in order to make potential changes to the questionnaire before undertaking the data collection. In addition to establishing the content of the items and the *response options* for those items, the researchers need to decide on the order of the questions, the visual format of the questionnaire, and whether the respondent will self-administer the questionnaire or whether an interviewer will administer it. Once researchers have constructed the questionnaire, they most commonly program it using software that will allow it to be administered via computer.

1.5 Collecting the data

Before data collection can begin for an in-person or a telephone survey, interviewers receive training on the administration of the survey questionnaire. This training strives to reduce the likelihood that interviewers will add error to the data as they are being gathered. In the data collection phase, the researcher aims to provide for efficient collection of the data while minimizing bias and variance that can occur during the data collection process. As part of introducing the survey into the field, researchers need to establish the survey's *field period*. This is the period in which the survey research team invites respondents to participate in the survey and collects data from respondents who agree to complete the questionnaire. Once the survey is "in the field," the researcher monitors the progress of the recruitment and data collection.

1.6 Processing and analyzing the data

The data processing and analysis phases of a survey consist of an examination of the collected data, the creation of variables to use in the analyses, and the statistical analyses themselves. During this process, researchers use rigorous statistical principles and statistical models to evaluate the data, adjust the data (i.e., weighting the data), quantify the *sampling error* associated with relevant survey variables, investigate the nature and size of any nonresponse bias, and conduct statistical modeling and inference. Researchers often refer to the data gathered from administering the questionnaire as the "raw survey data" to distinguish it from the processed survey data that accounts for (1) possible outliers or errors, (2) the sampling design, (3) possible imputation of missing data, and (4) postsurvey weighting. In this step, researchers examine the raw data for possible mistakes that occurred while gathering the data. They also weight the data, if necessary, to account for the sampling design and to account for the effects of noncoverage and nonresponse. Researchers often code responses to open-ended questions into quantitative categories amenable for statistical analysis. In addition, they identify (and create) any new variables to be

used in analyses of the original data. They can also impute data that are missing on key variables because the respondent was either unable or unwilling to provide a substantive answer. After completing these tasks, the researcher has a final data set to use for analysis. The researcher then calculates point estimates (e.g., averages and percentages) for survey questions of interest derived from the data. If appropriate, the researcher also quantifies sampling error for each of these point estimates using accepted statistical procedures. The researcher can conduct specific statistical analyses to describe, predict, or explain relations among the particular variables gathered in the survey. Given the specific hypotheses addressed by the survey, the researcher employs the appropriate statistical procedure to test the hypothesis and conducts the relevant statistical analyses.

1.7 Interpreting and presenting the results

In this step, the researcher presents the results derived from the data for the survey's questions of interest. The interpretation and reporting of the data follow from the type of data gathered, as well as from the statistical results and inferences that the researcher completed. Based on the statistical analyses performed, the researcher can draw the appropriate judgments and report these following the guidelines for disclosure defined and used by major survey professional organizations (e.g., the American Association for Public Opinion Research [AAPOR], the American Statistical Association [ASA], and the Council of American Survey Research Organizations [CASRO]). As part of this reporting, researchers should disclose the survey research methods used.

2 Deploying the Total Survey Error framework

The Total Survey Error (TSE) framework provides a commonly accepted and rigorous approach to evaluating a survey's reliability and validity. It provides a structured perspective that evaluates all the major sources of error that can exist in a survey and that can lead to unreliable or invalid results. Because TSE organizes the key sources of survey error into a logical, interrelated, and comprehensive framework, researchers can readily apply it to all surveys. The framework also can, and should, be used to plan, oversee, and interpret all surveys.

The TSE perspective originated with W. Edwards Deming in 1944. Its development was furthered by others in the 1950s and 1960s. However, not until the publication of Robert M. Groves' seminal book *Survey Errors and Survey Costs* in 1989 did the broader community of researchers begin to realize the considerable value of using TSE to help plan, conduct, and interpret surveys of all kinds.

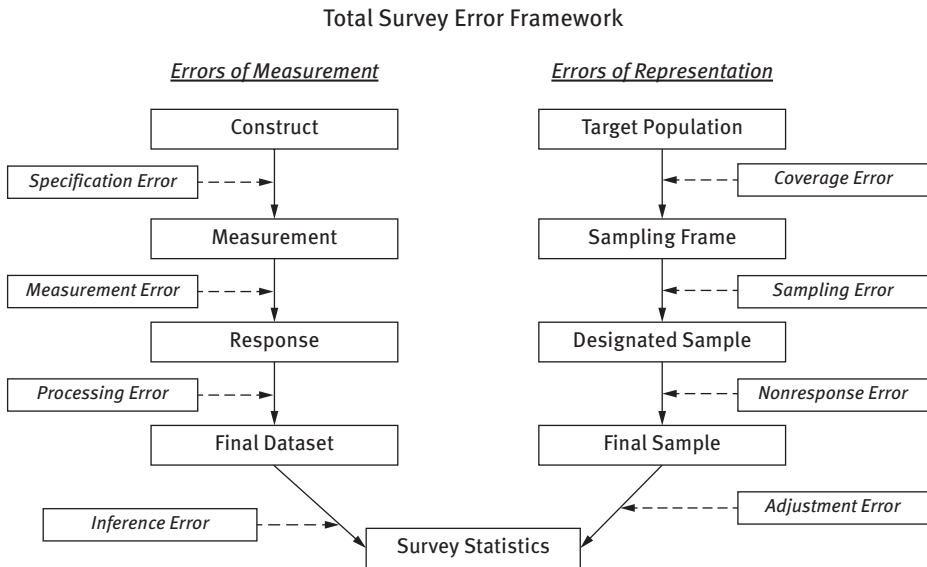


Figure 1: TSE framework.

As Figure 1 shows, TSE has two major classes of possible survey errors: representation and measurement.

2.1 Errors of representation

Errors of representation occur when the final sample of elements from or about whom data were gathered do not accurately represent the larger population to which the survey is being generalized.

- **Coverage error** is the bias that can result from a lack of congruence between the population of interest (the target population) and the list (the sampling frame) of all members of that population. For example, in a survey of the U.S. population age 18 and older conducted by means of household landline telephone, the sampling frame would be a list of all U.S. working landline telephone numbers. This sampling frame, however, does not account for a large portion of the target population, because a majority (> 50%) only owns a cell phone, and an additional small percentage (2–3%) of that population does not have any telephone service. *Noncoverage* refers to the mismatch between the target population and the sampling frame. Coverage error is bias that occurs when the uncovered portion of the population differs on key survey variables from the covered portion.
- **Sampling error** is the variance (i.e. imprecision) caused because researchers observe the *sample statistic* for a given survey variable instead of the *population*

parameter for that same variable. For example, a researcher may want to assess the proportion of daily internet users. A census of all U.S. adults could be conducted of this topic by adding the question to the decennial census. The resulting proportion derived from this census would provide the population parameter for this variable. However, a census of a target population often proves time-consuming and expensive. Instead, researchers can draw a sample from the target population to estimate the population parameter for that variable. The difference (attributable to sampling) between the parameter and the sample statistic is the sampling error. Using statistical sampling theory, researchers can calculate an estimate of the sampling error for a sample statistic, often referred to as the *margin of sampling error* (MOSE), which in turn can be used to construct *confidence intervals* (CIs) for the sample statistics. However, the calculation of MOSE and CIs is meaningful only when conducting a probability sample.

- **Nonresponse error** is the bias that can occur when the researcher does not collect data from all the elements that have been sampled from the frame. Unit nonresponse – whereby no data are gathered from a sampled respondent – occurs for various reasons, which include the researchers’ failure to contact and complete interviews with all sampled elements. It also occurs because of the refusal of some contacted sampled elements to provide data and because some contacted elements are incapable of providing accurate data (e.g., those with cognitive impairment). To the extent that the group of sampled elements who did not respond to a survey (the nonrespondents) differs in non ignorable ways from the group of sampled elements who did respond to a survey (the respondents), nonresponse error can result. There are several ways to investigate the nature and size of nonresponse bias, as discussed later in the chapter.
- **Adjustment error** is the bias and variance introduced into survey data by improperly accounting for other potential errors of representation. Researchers use many types of statistical adjustments to minimize the noncoverage, sampling, and nonresponse errors that can exist in the survey data. For example, *imputation* is a statistical technique used to estimate data that are missing as a result of item nonresponse, whereby a respondent fails to provide a substantive answer to a specific questionnaire item. Post-stratified weighting is a statistical technique to adjust a sample’s characteristics (e.g., sex, age, race, education) to make them a closer match to the same characteristics of the target population. To the extent that these adjustments worsen rather than ameliorate the bias, the increase in the bias due to the adjustment is the adjustment error. For example, efforts to adjust the raw data gathered in a survey often increase the variance in the adjusted data; thus, the statistical procedures applied to the final adjusted data can be less precise than they would have been without the data adjustment. Researchers then face a trade-off of accepting an increase in variance while trying to reduce bias because of the adjustments they decide to make.

2.2 Errors of measurement

Errors of measurement result when the researcher (1) improperly conceptualizes what the survey intends to measure, (2) gathers inaccurate data from the sampled elements, (3) does not process the data correctly, (4) does not analyze the data correctly, or (5) does not interpret the findings correctly.

- **Specification error** is the bias that can result when the information collected by the survey instrument does not adequately address the issues the survey intended to cover. For example, much political communication research tries to identify media use patterns of voters, but in the interest of economizing survey questions, the researcher(s) might restrict the questions to how many days per week respondents watch major broadcast and cable news networks, or on how many days in the past seven they have read a newspaper. Of course, a great many people today obtain news from various websites or blogs, or web portals such as MSN.com or Apple's news app. So, in this example, the researchers failed to specify the construct of "media usage" adequately and as a result would gather biased data.
- **Measurement error** occurs when the questionnaire inaccurately or inadequately measures the specific concepts of interest. For example, a researcher wants to measure how frequently a respondent reads a daily newspaper. Newspapers today are still printed and distributed to homes and other locations, but many people access news online via computer or more likely an app on their smartphone or tablet. In this example, there would be *questionnaire-related measurement error* concerning the meaning of the question. Some respondents might assume that the researchers mean to ask about reading a physical or online paper, but others might only react to the word "newspaper" and assume that the paper version is what is relevant. Measurement error can also occur in the data collection phase by the improper administration of the questionnaire to survey respondents (i.e., *interviewer-related measurement error*), or by respondents who cannot or will not provide accurate data to the questions posed to them (i.e., *respondent-related measurement error*), or by the data collection mode, whether in-person, mail, telephone, or Internet (i.e., *mode-related measurement error*).
- **Processing error** occurs after the data collection has ended but before analysis begins. The researcher examines and processes the raw data as necessary. Processing the data can include coding open-ended questions, in which respondents' answers are recorded verbatim, into closed-ended mutually exclusive and exhaustive categories that lend themselves to quantitative analysis. Processing also includes cleaning out so-called "bad data" (e.g., answers to open-ended questions that are unintelligible or out-of-range values), imputing missing data, and creating new variables from the raw data (e.g., a scale score formed from answers to multiple questions about media usage). At these data processing stages, processing errors can introduce bias and/or variance into the

survey results when analysts make inappropriate assumptions regarding how to process the data and/or are careless in how they process it. It is difficult to ascertain the extent of this problem because communication journals do not typically require authors to describe in detail the manner in which missing data are handled. However, a leading statistical textbook for communication research, after a lengthy discussion of missing data, appears to recommend *listwise deletion*, a procedure which drops any case on which there is missing data from analysis. The author goes on to say that, “So long as there is no systematic relationship between being missing on a variable and the value that a missing case (sic) would have had on that variable if it were not missing, the only thing that listwise deletion does is decreases the sample size and make inferential tests lower in power than they otherwise would be in the absence of missing data” (Hayes 2005). Of course, for multivariate analyses involving numerous independent and control variables, such procedures can severely limit the cases for analysis, and might affect the representativeness of the remaining cases.

- **Inferential error** can occur because the researcher uses the wrong statistical procedures to analyze the data, thereby generating findings that are incorrect or not as precise as what would have resulted had the researcher used the correct statistical procedures. Inferential errors can also occur when researchers go beyond the strength of their research design, for example, to draw cause-and-effect conclusions that their design does not empirically support. This latter form of inferential error occurs whenever a researcher claims the survey showed that X (e.g., a candidate’s advertising campaign) caused Y (e.g., greater support for the candidate) but did not conduct the survey using an appropriate experimental design. Researchers can claim that their surveys demonstrated a causal relation between X and Y only if they have conducted true experiments that use the principles of experimental design: replication (an independent repeat run of an experiment condition), randomization (the random allocation of one of the experiment conditions to each element in the experiment), and blocking (a design technique in which nuisance factors are held constant in an attempt to eliminate the effect they might have on the experiment).

3 Cost-benefit trade-offs in survey research

Communication researchers can best approach cost considerations in survey research using the TSE framework described previously in this chapter. Researchers can use this framework to improve the accuracy of survey findings by reducing TSE and/or accounting for the nature and size of errors that cannot be eliminated or reduced when interpreting the survey. These goals relate to the best allocation of finite resources available for a particular survey.

The field of survey research has not yet established whether practitioners should allocate more resources toward reducing errors of representation or toward reducing errors of measurement in order to improve a particular survey's accuracy. That is at least in part because the impact that errors of representation and errors of measurement have on the overall accuracy of a survey varies across surveys. Thus, at present no theoretical reason exists to expect that the error structure of one survey will be identical to or even similar to that of another survey.

The better-known and more manageable approaches identified decades ago for controlling errors of representation – especially those related to coverage error, sampling error, nonresponse error, and adjustment error – have led some researchers to believe that errors of measurement pose a greater source of TSE than do errors of representation. In the case of sampling error, in particular, researchers can use well-known statistical tools that can quantify the size of that error, provided the researcher used a probability sample. In the case of coverage error, nonresponse error, and adjustment error, researchers often can use established statistical weighting methods to try to reduce bias. Yet weighting often increases variance. These corrections may provide relatively small reductions in the absolute size of the error and often prove costly to implement. For example, increasing the size of a survey sample from 1,000 completed interviews to 2,000 interviews reduces the MOSE (thus increasing the precision) by approximately one percentage point (from ± 3.0 percentage points to ± 2.0 percentage points). However, costs increase substantially with twice the number of interviews that must be completed.

Other TSE cost-benefit trade-offs include the costs and error associated with unit nonresponse. Unit nonresponse can raise survey error, but reducing unit nonresponse increases the survey costs. In-person and telephone survey interviewers play a key role in gaining cooperation from sampled individuals and in gathering data from them once they agree to participate. The caliber of interviewers can vary considerably in their ability to elicit cooperation from the respondents they contact. The best interviewers achieve response rates two or even three times higher than the rates achieved by the lowest-performing interviewers. The higher response rate achieved by higher-caliber interviewers enables the research organization to reduce other operational expenses (e.g., costs associated with the amount of sample and length of field period required to gather the planned number of completed interviews). In addition, higher response rates may lead to lower nonresponse error and lower adjustment error.

In contrast, many errors of measurement do not have well-accepted tools to measure and reduce error. In particular, with telephone and in-person surveys (i.e., interviewer-administered surveys), errors of measurement often introduce the greater source of total error. Most survey firms that conduct such interviewer-administered surveys have high-quality approaches to addressing errors of representation. Consequently, additional resources directed toward deploying high-quality interviewing would most likely reap the highest benefit in reducing errors of measurement. The

reduction in errors of measurement and other errors of representation could more than offset the increased sampling error introduced by a reduced sample size when a survey uses higher caliber interviewers.

Both interviewer-administered and self-administered surveys can use resources to reduce errors of measurement in the context of questionnaire development as well. For all surveys, regardless of mode, spending more to develop and refine the questionnaire is very likely to be a prudent cost-benefit investment of finite resources. This includes adequate pilot testing to ensure that respondents understand the items on the questionnaire according to the researcher's intent.

4 Planning the survey and identifying its purpose

Many reasons exist to conduct a survey, and some surveys serve multiple purposes. The simplest survey collects data to estimate the level of a variable of interest in a target population. For example, the main purpose of many common surveys about politics or social issues is exactly this kind of description. Pew is a nonprofit that gathers enormous amounts of data on many topics of interest to political communication researchers. Typically, they produce a report containing the marginal frequencies of the variables and put that online or release it to media.

Another reason to conduct a survey is to investigate whether relationships exist between variables of interest. For example, Kaiser Family Foundation conducted numerous surveys concerning public support for the Affordable Care Act as part of its Kaiser Family Foundation (2012) Health Care Tracking Poll. Data from those polls tracked public opinion about the Affordable Care Act (ACA) from the early days of the Obama Administration. The Kaiser surveys were useful for comprehensive monitoring of public opinion regarding the ACA, how the public benefitted from the law, as well as how people viewed the various attempts through the Obama years to repeal and replace it.

In the initial stages of planning a survey, the researcher needs to identify its purpose. Without properly identifying the purpose and the research topics to address, a researcher risks creating a survey that is not “fit for purpose” (i.e., a mismatch between a study's design and rigorousness compared to its intended use). For example, a study that intends to rigorously estimate media use in a target population is interested in estimating population parameters. Authors might want to consider that cell phone use itself is a form of media. This is important because adequate representative samples cannot be achieved in U.S. phone surveys without the inclusion of an appropriate proportion of cell phone responses. However, Watson et al. (2015) reports an analysis of 17 journals from 2000 to 2013 published by or affiliated with the Association for Education in Journalism and Mass Communication, a major U.S. academic association of mass communication scholars. They were interested in whether

the mass communication discipline was embracing cell phone sampling frames. Distressingly, Watson et al. report that, “Of the 104 articles we identified that used sampling methods that could potentially be affected by the inclusion or exclusion of CPO (cell phone only) households, 77% did not provide enough detail to judge whether a cell phone frame was used in the study” (724).

Once researchers define the purpose of a survey and the research topics to address, they need to define the appropriate research design. In particular, if the survey needs to investigate a potential causal relation, researchers must implement an *experimental design* within the survey. For example, Bolsen, Druckman, and Lomax Cook (2014) designed and conducted a survey experiment to study how communication impacted energy conservation behavior. In this case, the experiment examined citizens’ actions after exposure to communication designed to shape collective action behaviors. This involved the attributions of responsibility for collective outcomes, and what effects are associated with one’s actions. Bolsen, et al. designed their online survey experiment with a sample of 1,600 adult U.S. persons, sampling from a large panel of respondents who opted-in to complete online surveys. The panel was originally developed based on random digit dialing (RDD) phone sampling, but to enter the panel a respondent needed to have access to the Internet. Subjects were asked to read a few sentences assigning responsibility for the nation’s energy situation. One statement focused on the responsibility of individuals and the other focused on “governmental decisions about the energy supply” and the role of government policy to help when individuals cannot meet the challenge.

Consequences were studied by including statements emphasizing economic costs, or effects on the environment. The outcome measures of interest were people’s reported interest in investing in insulation for their home and adjusting one’s thermostat to save energy. The final dependent measure involved asking people for the maximum amount they would be willing to spend to insulate their home to save energy. This experimental design embedded within a survey provided access to subjects far more diverse and thus representative of the general population than typical student sample experiments.

This stage of the survey process also addresses the procedures that mitigate the effects of survey nonresponse. When planning a survey, a researcher should consider the likelihood of nonresponse and how to avoid it or reduce its negative effects. The researcher can then proactively use nonresponse aversion methods to address nonresponse while the survey is in the field. Nonresponse occurs for two basic reasons (1) the inability to contact initially designated sample members, and (2) the inability to gather data from or about initially designated sample members. Researchers use numerous methods to address survey nonresponse; these include the tailoring of survey introductions, using multiple survey modes for recruitment, advanced notification, incentives, optimized calling and contact rules, and special interviewer training. Although a more complete discussion of the various refusal aversion approaches is beyond the scope of this chapter, the researcher should evaluate these recruitment

strategies during the survey's planning stage (cf. Dutwin, Loft, Darling, Holbrook, Johnson, et al., 2015).

5 Sample design and selection

An early decision that researchers make for a specific survey is how it will identify sample members from their target population. Sample design is the plan or framework that provides the basis for selecting the survey sample of potential respondents. To specify a sample design, researchers consider and make decisions about the following five factors:

- Whether to conduct a probability sample or a nonprobability sample
- The survey's target population
- The sampling frame from which to select the sample
- Type of sampling design
- The selection and size of the initial sample from the frame

5.1 Probability versus nonprobability samples

The distinction between probability and nonprobability samples affects, among other things, how to implement the analysis step of the survey research process and how conclusions are drawn about the findings.

With probability sampling, each member of the sampling frame has a known, nonzero probability of being selected from the frame. Because researchers know the probability of selection for each sample member, they can calculate unbiased estimates of population parameters from the sample data. They can also calculate *standard errors* for the sample estimates from the survey's data using well-accepted statistical theory.³ With a probability sample, researchers use the standard error of a sample estimate to calculate a confidence interval for that sample estimate. A confidence interval represents the range of values for the respective population parameter given a specified level of confidence. Using a probability sampling approach, a researcher can calculate the likely range for the parameter of interest based on the results from the survey sample.

³ The standard error of a sample estimate measures the dispersion of the sample estimate that would result if the researchers took multiple similar samples and conducted the survey separately with each sample.

A probability sample provides several statistical benefits:

- The unbiasedness (or validity) of the sample estimates
- The ability to measure the accuracy (or efficiency) of the sample estimates
- An estimate of the reliability (or reproducibility) of the sample estimates over repeated samples

These features of a probability sample enable a researcher to generalize with a known level of confidence, using established statistical principles, to the target population from which the sample was drawn. In other words, the sample estimates are considered representative of the larger population, taking into account the sampling error of the sample estimates.

In contrast, with a nonprobability sample, the probability of selection for members of the sampling frame is unknown. Consequently, researchers who use nonprobability samples cannot evaluate these sample estimates with a known level of confidence to measure their validity or reliability using commonly accepted statistical principles. Moreover, no widely-accepted and statistically valid method exists to generalize the results with confidence from a nonprobability sample to the target population from which it is drawn without making assumptions about the population parameters and how they correspond to the sample statistics. These drawbacks can undermine the usefulness of a nonprobability sample when trying to make conclusions about the target population.

Nonetheless, communication researchers use nonprobability samples when they do not require the benefits of probability sampling, because nonprobability samples often prove more convenient and less costly to implement than probability samples. Researchers should use the concept “fit for purpose” in these contexts. Fit for purpose weighs a study’s rigorousness against its intended usage. For example, exploratory data gathering using a nonprobability sample to generate initial hypotheses for testing in later studies would generate sample estimates that have unknown validity and precision. If this limitation is acceptable in the context of the study’s intent (e.g., to provide hypotheses that will later be tested using a more rigorous design), then the study, and thus the nonprobability sample, is fit for purpose.

Communication researchers use several types of nonprobability samples, which include the following:

- **Quota sampling.** The researcher sets a target number of sample subgroup members, typically based on certain demographic characteristics. The sampling procedure selects sample members in these subgroups, based on who is convenient to sample, until the sample achieves the quota for each subgroup.
- **Purposive sampling.** The researcher selects sample members based on subjective opinions about which members of a population will most likely be representative of that population.
- **Convenience sampling.** The researcher selects sample members based on the easiest population members to access and gain cooperation from.

- **Snowball sampling.** The researcher selects the majority of sample members based on referrals or nominations from other (yet similar types of) respondents who previously participated in the survey.

5.2 Target population

Identifying a survey's target population ranks among the most important decisions for a researcher. It influences other aspects of the survey and defines the population to which the researcher wants to generalize the results under a probability sampling design. For example, Tan (2015) set out to study the impact of direct-to-consumer advertising among cancer patients. Using the Pennsylvanian Cancer Registry (PCR), a cancer directory established by the State of Pennsylvania in 2005, Tan chose to sample 3,994 randomly selected individuals from the 26,608 names on the list. The sample was stratified by three types of cancer: breast, colorectal, and prostate. An oversample among patients diagnosed with colorectal cancer, those with Stage IV disease, and African American patients was added to increase sample sizes for subgroup analysis.

Difficulties in identifying the target population can lead to lack of response or perhaps an uneven ability to report on the phenomena of interest. For example, Laucella, Hardin, Bien-Aime, and Antunovic (2017) designed a telephone survey to interview sports news gatekeepers at the top 200 American newspapers. They began by selecting the largest newspapers from Bacon's Newspaper Directory (which ultimately served as their frame). Five of the 200 newspapers chosen derived their sports coverage from larger newspapers and two did not have sports coverage. These seven were not replaced in the sample. As a result of telephone calls placed to the remaining 193 organizations, 96 people agreed to be interviewed, using a maximum of four calls per organization. It was not reported how the individual who was interviewed at each institution was selected. Results indicate that a wide range of job titles were reflected among the organizations where phone interviews were completed: sports editors, assistant managing editors for sports, assistant sports editors, and deputy sports editors. Editors who could not be reached were then offered the opportunity to complete the questionnaire via email, resulting in 32 additional completions. Authors focused on "an acceptable but not ideal 67% response rate." Questions involved topics such as reader interests, opinions about hiring women, Title IX, ethical issues, and homophobia in sports. Given the large range of job titles included, it is not clear that all of the people interviewed had the same institutional perspective or the experience necessary to answer the difficult and sometimes sensitive policy questions, which were adapted from published surveys of sports editors. In the next section we discuss sampling frames. This sheds some additional light on certain limitations of the Laucella et al. study, which apparently began with no specific sampling frame of individuals to be interviewed.

5.3 Sampling frame

Once researchers have defined the appropriate target population, they should choose a means by which to try to identify every member of that population. Typically, this consists of securing, or possibly creating, a list of members of the target population. This list is the sampling frame.

If the frame, as it often is called, does not fully cover the target population, it is said to “undercover” the target population. A sampling frame that covers more than the target population (e.g. some members are in the list more than once or the frame includes some elements that are not part of the target population) is said to “overcover” the population. In some cases, a researcher can ignore undercoverage of the target population. In other cases, undercoverage can lead to non ignorable coverage error.

For example, in telephone surveys that use the general U.S. population as the target population, researchers often employ a dual random digit dialing (DFRDD) sampling frame, which covers both cell phone and landline phone numbers, because it enables them to sample all existing telephone numbers in the nation, not just those found in a telephone directory or on commercial lists. However, even the sampling frame for an DFRDD sample design will not cover the roughly three percent of U.S. residents who have no telephone service of any kind. Consequently, telephone surveys cannot sample these members of the target population by using telephone numbers.

For some survey topics, the opinions, perceptions, preferences, or actual (or likely) reported actions of members of the target population without telephones do not differ substantially from members of the target population with telephones. Moreover, in the United States, the number of households without telephone service is very low. Therefore, missing this segment of the population most often does not lead to meaningful coverage error in survey results.

In contrast, for some other surveys, such as those that address health, education, or income related topics, missing this small segment of the population could materially affect sample estimates because of the possibility that telephone ownership correlates highly with the survey topics of interest. Thus, excluding households without telephones from the sampling frame could lead to a non ignorable level of coverage error.

5.3.1 Auxiliary data

When choosing a sampling frame, researchers should consider the additional data, referred to as *auxiliary data*, which the frame could contain about the target population, or which could be added to the frame. Once appended to a sampling frame, these data can help the researchers divide the frame into meaningful strata that can reduce the survey’s MOSE. For example, if the auxiliary data include geographic information and a

survey question of interest is a household's disposable income, the researcher can use the auxiliary data to stratify the sampling frame into upper and lower financial areas. By randomly sampling from each stratum, the researcher can obtain benefits such as more precise sample estimates of household disposable income for each stratum and use these sample estimates to obtain a more precise sample estimate of household disposable income for the overall population.

Of further value, and as discussed later, auxiliary data also can help the researchers investigate the possible existence of nonresponse bias after they have gathered the survey data. By comparing the auxiliary data on the sampling frame associated with the survey's sampled nonrespondents with the auxiliary data associated with the survey's sampled respondents, the researcher can obtain insights into whether the two groups differ in non ignorable ways and thus whether the survey's findings are susceptible to nonresponse error. If so, then the researchers can use weighting methods that may be able to eliminate or at least reduce the extent of nonresponse error.

After completion of the survey, the choice of the sampling design determines the generalizations the researcher can make from the sample results to the original target population. For example, if all residents of the Northeast are the relevant target population, a survey that samples only residents from metropolitan areas in the Northeast will not apply to the entire target population. In this example, the survey chose an inadequate sampling frame – one that was not fit for purpose.

5.3.2 Common sampling frames

The following section lists sampling frames that researchers often use.

Area probability (AP) frames

These organize a survey sample by geopolitical areas. Researchers first draw hierarchical samples of geopolitical units, such as counties, then census tracts within counties, and then census blocks within census tracts. Enumerators then canvass the sampled census blocks to identify (enumerate) all the household addresses in each census block, noting whether each housing unit appears to be occupied. AP frames are the “gold standard” of sampling frames because they can provide essentially 100% coverage of the residential target population, but they are very costly to create. In-person data collection often is used for surveys that rely on AP frames.

Address-based sampling (ABS) frames

These contain addresses of the elements (households) that compose the residential target population (cf. Harter, Battaglia, Buskirk, Dillman, English, et al., 2016). For surveys of the general public in the United States, researchers can purchase an ABS frame that is based primarily on the U.S. Postal Service's Delivery Sequence File for

a given geopolitical area of interest. These ABS frames readily allow sample vendors to append valuable auxiliary data for each sampled address. At a national level, this frame covers approximately 98% of residential addresses. But for some of the smaller, predominantly rural geographic areas, including Native American reservations and regions of Appalachia, there is much lower coverage (less than 80%).

Researchers use ABS frames primarily with mail recruitment and in-person recruitment, although they also use them for some telephone recruitment, given that numerous list vendors can match telephone numbers to addresses for about half of household addresses in the United States.

Dual random digit dialing (DFRDD) frames

These use landline and cell phone telephone numbers. Researchers use DFRDD samples because relying only on a landline RDD sample will create serious coverage errors for most survey topics (cf. Lavrakas, Benson, Blumberg, Buskirk, Flores Cervantes, et al., 2017). In the U.S., slightly more than half of all residents have only cell phone service and less than 10% have only landline service as of 2017. A number of companies create these frames using data available from telecommunication agencies and then draw samples for researchers at a relatively low cost. The calling process during the actual survey period will screen out the numbers that are not in service and are not households or businesses. Interviewers process the numbers trying to contact someone eligible for the survey. When they find an eligible person, they try to complete an interview. This often requires making multiple calls to hard-to-reach people. However, within the next five years, researchers are more likely to only need the cell phone frame to adequately cover the U.S. population for most general population telephone surveys (Lavrakas et al, 2017).

Internet research panels

Internet research panels offer two types of sampling frames. The first is the nonprobability opt-in panel, which comprises those who volunteer to join the panel. The opt-in nature of the panel's construction lacks a random selection process that uses statistical sampling methods to create a panel that is a probability sample of some larger population. Consequently, researchers cannot generalize to a larger target population with any confidence when using samples drawn from an opt-in panel (cf. Baker, Blumberg, Brick, Couper, Courtright, et al., 2010). The second type of panel is the probability-based Internet panel, which selects its panelists via a probability sampling approach from a larger population. The company that builds and maintains the panel then uses the list of its panel members to draw a probability sample of panel members to whom to administer a particular survey questionnaire. Using well-established statistical methods, researchers can generalize the sample results from surveys conducted with probability-based Internet research panels with a known degree of confidence to the larger population from which the panel members were selected.

5.4 Sampling design types

For probability samples, communication researchers generally use four types of sample selection processes:

- **Simple random sample (SRS).** Researchers conduct simple random samples (the simplest type of probability sample) typically without replacement (i.e., once selected from the sampling frame, the sample member is then removed from the frame). Under this sampling approach, every member of the sampling frame has a known nonzero chance of selection. In most cases, the selection probabilities for each element on the frame are equal.
- **Systematic random sample.** Provided that the listing of elements in the frame is not in some periodic or cyclical order, the researcher may prefer to draw a systematic random sample. To create this type of sample the researcher chooses a sample size, n , and selects the integer, k , where k is N/n if N/n is an integer or k is the next integer after N/n if N/n is not an integer (N is the size of the population). To determine which units to sample from the frame, the researcher first selects a random integer, S , which is between 1 and k . The unit from the population corresponding to S is sampled, and every k th unit thereafter, until the sample has n units. In other words, the sample is the set: $S, S + k, S + 2k, \dots, S + (n - 1)k$. Systematic sampling results in a sample that has units sampled at the interval k across the entire sampling frame. Using a systematic sample forces the sample to be drawn across the entire frame, which may not happen with a SRS.
- **Stratified random sample.** Stratified random sampling organizes (stratifies) the population into subgroups, or strata, based on information available for all the population units on the frame, such as sex, race, age, etc. The researcher groups units with similar information into a stratum. After stratifying the sampling frame, the researcher takes a simple random sample or systematic random sample of units from each of the strata. Using a stratified sample with systematic sampling within each stratum, not only forces the sample to be drawn across the entire frame, but also selects a proportionally “correct” amount of elements within each of the strata. Stratified samples are preferable when the variables on which the sample is stratified are correlated with the key variables the survey is meant to measure.
- **Multistage sample.** These samples are hierarchical because the researcher applies one or more of the previously mentioned sampling designs to sample the relevant population units at more than one stage. Typically, each sampling stage occurs along different levels of geography. Suppose an in-person survey was to be conducted of newspaper editors. The researcher could design a multistage sample to sample editors that would limit the travel involved for the interviewers compared to drawing a SRS. During the first stage, the researchers would randomly sample states. The second stage would sample counties within the

selected states. Then, within counties, researchers could randomly sample cities. For the sampled city, the editor of the predominant newspaper serving that city would be selected.

5.5 Selection and size of the initial sample

When deciding to select a sample from the target population, at least one stage of the sampling design often requires the selection of a random sample. After assigning a random number to each member of the sampling frame, the researcher can sort the sampling frame by the random number to yield a randomized list, resulting in a simple random sample (SRS) where the researcher has simply chosen the first 1000, 2000, 3000, etc. elements from the randomly sorted list. When using a probability sampling approach, the researcher considers the selected sample design, the variability of the sample estimate of interest, and the desired level of precision for that estimate in determining the desired sample size. For example, the researcher might need to be 95% confident that the population value for the variable of interest (e.g., daily Internet usage) lies within ± 4 percentage points of the sample estimate for that variable, and for a SRS that would require using only the first 500 elements if no nonresponse was expected. The precision of a sample estimate derived from a SRS that is drawn from a large population is the square root of the squared standard deviation (SD) divided by the final sample size (n) or $\text{SQRT}(\text{SD}^2/n)$.

However, many researchers choose to use other sampling designs, such as systematic samples or stratified samples, for good reasons. But the calculation of their precision is more complex, and the researcher must take into account the design effect (*deff*) and resulting effective sample size (ESS). An ESS is the sample size for a SRS that would have yielded the same precision as a larger sample size that comes from a sampling design that is not a SRS. These other sampling designs typically add variation (i.e., imprecision) to the estimates that result from such surveys, and this added variation is represented by the *deff*. So, for example, if a national media election poll uses an oversample of minorities to gather a final sample of 1,000 interviewers to assure that a representative number of interviews in the final sample are with Blacks and Hispanics, then that *deff* for that survey will be greater than 1.0 (1.0 is the *deff* for a SRS). In this example, the *deff* might be 1.20. If so, then even though the final number of interviews is 1,000, the ESS for this survey is 833 because the media poll used a sampling design that was no more precise than a SRS of 833 completed interviews. Many journalists, communication researchers, and other social scientist are unaware of these sampling design effects, as are many editors of scholarly journals. As such the news as well as communication literature is filled with survey research results that report findings that in reality are less precise than is claimed for them.

6 Sample recruitment and unit nonresponse

Unit nonresponse refers to the failure to gather any survey data from (or about) a respondent in the initially designated sample. Unit nonresponse becomes a serious problem to a survey's accuracy if it causes nonnegligible error in survey results due to respondents whose answers to questions of interest materially differ from the answers that nonrespondents would have given. This non-negligible error can affect the accuracy of the sample estimates, resulting in *nonresponse bias*.

There are three primary reasons that unit nonresponse occurs: (1) the inability to contact a sampled respondent during the survey's field period, (2) the sample respondent's refusal to participate in the survey, and (3) language or other physical or mental barriers that prevent a sampled respondent from providing any data.

Survey researchers attempt to counter unit nonresponse by deploying various strategies to gain cooperation from the people they have sampled. There are myriad types of recruitment strategies that can be considered for use, including advance contact, multiple follow-up contact attempts, persuasive cover letters, assurances of confidentiality, refusal conversions attempts, noncontingent incentives, contingent incentives, other nonmonetary incentives, informational brochures, informational websites, multiple modes of recruitment, multiple modes of data collection, and using shorter questionnaires. Details about these recruitment strategies and others are found in Dillman, Smyth and Christian (2014) and Groves, Fowler, Couper, Lepkowski, Singer, and Tourangeau (2009).

Unit nonresponse always raises survey costs as more effort must be expended to gain the amount of completed interviews that is required for a particular survey study. This happens because a larger initial sample must be drawn and processed than would be necessary if there was little or no nonresponse. For example, for many media polls, including those taken during election campaigns, the size of the initial sample that must be processed is often 10 times or more the size of the final sample that provides data. This has raised survey costs appreciably in the past three decades as cooperation with media surveys has steadily decreased and in 2018 often is in single digits. And in our view, it has appreciably lowered the quality of media sponsored polls because the media pollsters generally are given insufficient funding to conduct such polls well by the organizations that sponsor them.

6.1 Response rates

Essentially no survey achieves a 100% response from its initial sample. Thus, there are sampled respondents from whom no data are gathered. Researchers can and should report several types of response rates (e.g., an overall response rate, a refusal rate, and a cooperation rate). And communication journal editors should require that these

rates be reported in all survey-based articles. Each response rate provides different information about the success in fielding the survey. To standardize the reporting of these rates across survey organizations and their surveys, the American Association for Public Opinion Research (AAPOR) has created a free manual that addresses how to compute such rates and how to standardize the reporting of effort expended to gather data during a survey's field period (AAPOR, 2016).

6.2 Unit nonresponse bias

To the extent that unit nonresponse bias could be a non negligible source of error in a particular survey, studies should build in the means to investigate the size and nature of possible nonresponse bias in the gathered data (Montaquila and Olsen, 2012). To the extent that non-ignorable differences exist on key survey statistics between respondents and nonrespondents, nonresponse bias studies can give insights into the appropriate adjustment for unit nonresponse. Researchers can select from many approaches to conduct nonresponse bias studies, including the use of auxiliary data that exist for a sampling frame to compare differences between the sampled nonrespondents and the sampled respondents. During the past two decades, efforts have been made to identify the ways in which nonresponse bias can be studied. Of note, the U.S. federal government now expects that surveys that achieve low response rates have a plan for a nonresponse bias investigation so as to characterize (1) the nature of the bias, (2) the size of the bias, and (3) what the survey's results would have been without the bias (cf. OMB, 2006). There are several ways to investigate nonresponse bias including:

- comparing survey findings to an authoritative benchmark,
- conducting a nonresponse follow-up-survey,
- comparing auxiliary data matched to the frame for respondents vs. nonrespondents, and
- comparing easy-to-interview respondents with hard-to-interview respondents (cf. Montaquila and Olsen, 2012).

7 Using survey-based experimental design methods to test causal hypotheses

Experimental data can be collected from surveys to test causal hypotheses (Lavrakas, de Leeuw, Holbrook, Kennedy, Traugott and West, forthcoming). Communication scientists are frequently involved in these kinds of studies. Nowadays, most experiments, with the goal of establishing causal relationships based on experimental manipulations, are done either in a lab using student subjects from a subject pool or organized as one-shot

surveys using volunteers from the subject pool. Data collection for these survey-based experiments typically are conducted online using questionnaire construction software such as Qualtrics, which offers a secure platform and very flexible question formats to accommodate most types of questions, rotations, randomizations, etc. Subjects are volunteers from the unit's undergraduate subject pool who are incentivized by either extra credit in their classes or to fulfill certain "research experience" requirements built into introductory courses. It is not uncommon for students to be required to participate in several such research experience projects each academic term. Empirically, these subject pool studies rely on randomizing volunteer subjects to create equivalent treatment and control group at the start of the experiment and the power of their stimuli to create effects in the treatment groups compared to the control group.

In recent years as large-scale volunteer (opt-in) research panels of potential respondents have become available from numerous vendors, communication scientists have begun to use them as supplements or alternatives to student subject pools. These nonprobability panels, most of which are created by private firms, are costlier than using student subjects, but provide access to much more diverse subjects. In such studies, the power of randomization to create equivalent groups of treatment and control groups is essential, and the interest of the researchers is in the power of their stimuli to create causal effects within the treatment groups.

Researchers who are interested in the generalizability of their results to specific populations (e.g., the general public as a whole) have the option to build their experimental stimuli and randomizations into surveys with representative probability-based samples such as those offered by GfK's Knowledge Panel and NORC's AmeriSpeak Panel. The NORC panel also includes oversampling of certain rare populations, including rural and low-income households. In addition, the Time-Sharing Experiments in the Social Sciences project has been funded by the National Science Foundation since 2002 to support randomized survey experiments throughout the social science research community based on true random samples of subjects.

So, communication researchers can often build their experiments into surveys and collect the data with those surveys. An experimental research design enables the client to make claims about causation with strong *internal validity*, which refers to a study's strength to support causal reasoning of the form "X causes Y." In addition, the researcher who conducted the experiment using a probability sampling method and a well-designed survey can achieve strong *external validity* and be able to generalize the findings with a high level of confidence to the survey's target population (cf. Lavrakas et al., forthcoming).

8 Measurement error

A survey's accuracy (reliability and validity) and all the associated errors of measurement relate to the methods used to gather the data. Most surveys use a questionnaire

to gather the data. Some media audience researchers also use electronic means (such as the special meters used by companies like Nielsen and Arbitron to measure television and radio audience behaviors). Measurement errors include those associated with the questionnaire, interviewers (if they are used), respondents, and the mode of data collection.

8.1 Specification error and questionnaire-related measurement error

When creating a questionnaire, researchers must first identify all the constructs (i.e., concepts) of interest that they will gather through a particular survey instrument. If a questionnaire's items lack the rigor to obtain valid measures for the constructs of interest, the questionnaire is said to suffer from *specification error*.

There have been continuing controversies within the discipline of communication over the measurement of the construct, media use, with various researchers using relatively simple measures such as time spent with television or reading newspapers and magazines. For example, Dilliplane, Goldman and Mutz (2013) attempted to address this with their work on television program listing as part of the Annenberg National Election Study series. This involved presenting online survey respondents with lists of news programs and asking them to report about their exposure to specific news programs by checking off programs they "watched regularly." However, Prior (2013) questioned the validity of the program list technique as a measure of media use frequency. Prior raises a number of challenges to program listing in terms of various types of questionnaire-related measurement error, including construct validity, convergent validity, and predictive validity. Prior has emerged as a major skeptic of self-reported media measures generally and seems to prefer passive tracking techniques involving data analytics to measure exposure automatically. He prefers this because he doubts the ability of respondents to report their own exposure reliably. Note that the new, more decentralized information environment and its interaction with social media produces even more complications (Pearson & Kosicki 2017).

Researchers need to select and create the items that make up the questionnaire. During this step, referred to as *operationalizing the constructs*, researchers decide how the survey will measure each construct. The researcher also needs to decide whether a particular question will have an *open-ended* format (in which respondents answer questions in their own words) or a *closed-ended* format (in which respondents choose an answer from a limited number of standardized response options, such as "strongly agree," "somewhat agree," "neither agree nor disagree," "somewhat disagree," and "strongly disagree"). Although open-ended items can provide rich information about a topic of interest, once data have been gathered survey researchers must engage in a form of quantitative content analysis by coding the *verbatim*s (the

open-ended responses) into meaningful categories suitable for statistical analysis. In contrast, responses to closed-ended questions are immediately available for analysis, but the data they generate can lack the richness in depth of meaning that open-ended items allow.

In addition to writing the questions and the response options, researchers need to consider the sequence (order) and format of the questions. Research has shown that order and formatting effects can sometimes result in questionnaire-related bias and variance. To avoid possible bias caused by question sequencing, researchers can randomly order the questions (and/or the respondent choices) or randomly assign some respondents to one sequence and other respondents to another sequence. They can then quantify and adjust for any effects of question sequence when interpreting the responses.

Before finalizing the questionnaire, survey researchers often conduct a pilot test of a small number of completed questionnaires – often 15–25 – to try to identify possible problems related to respondents’ understanding particular questions and to gauge the average time required to complete the questionnaire. If the research budget allows, cognitive interviewing can be used to have pilot-test respondents, one at a time, “think out loud” about (1) how they are making sense of what the question is asking, (2) trying to decide their answer to the question, and (3) which of the questions response choices matched their own answer most closely (cf. Willis 2015). These qualitative “think aloud” sessions can be extremely informative to researchers in uncovering problems with their questionnaires from a respondent’s perspective.

8.2 Respondent-related measurement error

Surveys that use a questionnaire gather *self-reported* data. This term acknowledges that the information reported by the respondent might not be accurate because of, for example, the fallibility of long-term and short-term human memory in many circumstances. Because of this and other reasons, the respondent in a survey is a potential source of measurement error, regardless of the questionnaire’s quality. The problems attributable to human memory when providing self-reported data apply to many survey topics, including questions about behaviors (*How many days in the past seven did you read the Wall Street Journal?*), knowledge (*Who is the Chief Justice of the Supreme Court?*), perceptions (*In October 2016, how favorable or unfavorable were you towards the candidacy of Donald Trump?*), attitudes (*Did your mother favor or oppose women getting legal abortions?*), or even some demographic characteristics (*What was your total household income before taxes in 2017?*).

In addition to a respondent’s inability to accurately recall the information that a survey question asks, some respondents are unwilling to provide accurate data to particular survey questions. We do not suggest that these respondents will purposely provide false information to all the survey questions. However, for certain types

of questions, the average respondent has a tendency to modify her/his answers to present themselves in a better light than if they reported fully accurate information. This tendency on the part of survey respondents to present themselves in a better light is termed *social desirability* (Edwards 1957). Socially desirable answers occur more frequently with interviewer-administered questionnaires than with self-administered ones, because the presence of the interviewer can motivate respondents to modify their answers to be more likely to please or less likely to displease the interviewer.

Researchers refer to another form of respondent error as *satisficing*, whereby respondents use strategies or heuristics that entail quickly searching through the available answers to a survey question and selecting an answer that is “good enough” but that is not the optimal answer for that respondent (Simon 1956; Krosnick 1991). This tends to happen when the amount of effort required to provide the optimal answer exceeds the effort the respondent is willing to provide. For example, respondents who are rushed, or lazy, or inattentive tend to reply “don’t know” or “uncertain” more often than other respondents.

Acquiescence bias, which is the tendency of many humans to agree rather than disagree, is another form of satisficing. People with this tendency will more likely say “Yes” or “Agree” than “No” or “Disagree” regardless of the question.

In another form of satisficing known as *straight-lining*, respondents repeat the same or similar answers to a series of questions that use the same response choices, such as responding “not very interested” to a series of consecutive questions that ask about the extent of one’s interest to different news topics. Satisficing occurs for many reasons, such as when respondents rush to finish either self-administered or interviewer-administered questionnaires.

Furthermore, a sizable minority of survey respondents have been found to concurrently engage in other activities while completing a survey questionnaire, many of which are cognitively distracting, such as watching TV, surfing the Internet, conversing with a friend or relative, or driving a car (Lavrakas, Tompson, Benford & Fleury 2010). This can reduce the data quality compared to the responses of those respondents who are not so engaged.

8.3 Interviewer-related measurement error

For telephone and in-person surveys administered by interviewers, inadequately trained and inadequately supervised/monitored interviewers can present a source of error. Consequently, the survey process should include thorough training for interviewers in both the general skills they use and the specifics of the particular survey project (Tarnai & Moore 2008).

When possible, the data collection stage should include monitoring the work of telephone and in-person interviewers while they are conducting the interviews or by

listening to recordings of interviews once those recordings are available (cf. Steve, Burks, Lavrakas, Brown and Hoover, 2008). Ideally, neither the interviewer nor the respondent should be aware of the monitoring: for example, when an in-person interviewer uses a laptop to administer the CAPI (computer-assisted personal interviewing) questionnaire, the laptop's software can record the verbal behaviors of the interviewer and the respondent at any time without the interviewer's or respondent's knowledge. Supervisory staff can then assess these recordings for interviewing quality at a later time.

Research organizations can also recontact respondents after the survey field period has ended. Through these recontacts, supervisors can verify completion of the interview with the respondent and can collect some of the same data from the respondent to provide a further reliability check on the original data recorded by the interviewer.

8.4 Survey data collection modes and mode-related error

Researchers use five basic modes to gather data from survey respondents:

- In-person
- Telephone (landline and cell phone)
- Mail
- Interactive voice response (IVR)
- Internet (desktop, laptop, tablet, and smartphone)

The particular mode(s) that a survey uses can affect the quality of the collected data. For example, research has consistently shown that the self-administered modes (mail, IVR, and Internet) often provide more accurate data about sensitive topics than the interviewer-administered modes (in-person and telephone). In contrast, the literature shows that missing data (when a respondent ignores a question or refuses to answer it) occurs more often with a self-administered questionnaire than with an interviewer-administered questionnaire.

8.4.1 In-person mode

The in-person mode, also called *face-to-face* surveying, was the original mode used for survey research and was first conducted with paper and pencil. Starting in the 1990s, researchers have programmed in-person survey questionnaires into CAPI computer software that guides the interviewer through the questionnaire. Researchers also use this software to control the processing of the sample of respondents by scheduling initial visits and subsequent return visits based on auxiliary data that indicate the best times to visit.

To increase response rates, once the survey field period begins, interviewers make multiple visits, if necessary, throughout the field period to sampled individuals who have not completed the questionnaire but have not yet refused to do so. These return visits should occur at different times of the day and evening and on different days of the week until contact is made. After in-person recruitment takes place, in-person data collection can occur via CAPI whereby an interviewer reads the questions to the respondent and enters the answers into the computer, via computer-assisted self-interviewing (CASI) whereby respondents use a computer to complete the questionnaire on their own, or via an audio version of CASI (A-CASI) whereby someone who is not fully literate listens to a playback of a recording of the questionnaire while completing it on their own. In-person data collection makes it easy to show respondent visual stimuli (such as a newspaper's front page) as part of gathering data from them. *Recency effects* – the tendency of respondents giving data to an interviewer to choose answers that come later in a list of options – can lower data quality in in-person interviewing. Researchers try to limit the damage from recency effects by randomizing response choices within a list.

8.4.2 Telephone mode

Researchers can program telephone survey questionnaires into computer software that guides the interviewer through the questionnaire. Researchers also use this software to control the processing of the sample of respondents by scheduling initial calls and callbacks based on auxiliary data that can predict the best times to call. This interviewing process, using computers and computer software, is referred to as *computer-assisted telephone interviewing* (CATI).

To increase response rates once the telephone survey field period begins, interviewers make multiple contact attempts throughout the field period to sampled individuals who have not completed the questionnaire but have not yet refused to do so. These callbacks occur at different times of the day and evening and on different days of the week. Telephone data collection limits what can be used as stimuli during the data collection process. Recency effects can be harmful to data quality in telephone data collection.

8.4.3 Mail mode

Even in 2018, there are a good many researchers who print their questionnaire on paper and mail it to the sampled units (typically residential or business addresses or named individuals at these addresses). That is because there still are many people who prefer to complete a printed (non-electronic) mail-back questionnaire, especially those older than 50 years of age. The packet containing a mail questionnaire

should include a return envelope with postage paid for the respondent to return the completed questionnaire. The packet also includes a cover letter (typically printed on the survey organization's or the researcher's letterhead) that explains the general nature of the survey, why the sampled respondent should participate, a guarantee of confidentiality, and any incentive to encourage completion of the survey. To increase response rates, prudent researchers will perform at least three mailings to nonrespondents, approximately every two weeks, during the field period. These follow-up mailings and the time required to implement them will stretch a field period for data collection to at least six weeks (cf. Dillman, Smyth & Christian 2014). Mail data collection makes it easy to show respondent visual stimuli (such as a newspaper's front page) as part of gathering data from them. *Primacy effects* – the tendency of respondents giving data via a self-administered questionnaire to choose answers that come earlier in a list of options) can lower data quality in mail surveying. Researchers try to limit the damage from primacy effects by randomizing response choices within a list, but their ability to do this with a hard copy questionnaire is very limited.

In the past decade with the growth of address-based sampling, researchers have started to contact respondents by mailing them an invitation package as described earlier but without including a mail-back version of the questionnaire. Instead they give respondents a user ID and password to go to a website to complete the questionnaire. This is called *computer-assisted web interviewing* (CAWI). In these research studies, if a sampled respondent does not respond via the CAWI mode, then researchers typically send a hard copy of the questionnaire and a postage-paid return envelope in a subsequent mailing. Past experience has shown that in surveys of the general public, respondents who choose to complete the questionnaire via CAWI are demographically quite different from those who choose to complete the mailed hard copy of the questionnaire.

8.4.4 Interactive voice response mode

In the United States and as it relates to survey research, interactive voice response (IVR) is a telecommunications mode that involves a computer system that dials phone numbers and then plays a recording that introduces the survey and administers a brief questionnaire (often fewer than five closed-ended questions). A recorded voice, rather than a live interviewer, asks the survey questions. The respondent speaks his or her answer or enters it using the numeric keypad on the telephone, which the computer system records into the data set. IVR has been found to produce more accurate data for sensitive questions than the interviewer-administered mode (Corkrey & Parkinson 2002). IVR data collection limits what can be used as stimuli during the data collection process. Recency effects can be harmful to data quality in IVR data collection.

8.4.5 Internet mode

Internet questionnaires are computer-based (“fixed Internet mode”) or mobile device-based (“mobile Internet mode”), and they guide the respondent through the questionnaire. Researchers refer to this self-administered process as *computer-assisted web interviewing* (CAWI).

With Internet surveying, when sampling is carried out via ABS researchers should send sampled respondents an advance letter and/or an email about the survey whenever possible. The advance contact should (1) identify the survey organization or the sponsoring organization, (2) briefly explain the nature of the survey and why the sampled respondent should participate, and (3) indicate the approximate amount of time the survey will require. The contact should guarantee the confidentiality of the resulting data and may offer a noncontingent incentive and/or mention a contingent incentive that the respondent will receive upon completing the questionnaire.

To increase response rates, researchers should send reminders throughout the field period to sampled individuals who have not completed the questionnaire but have not yet explicitly refused to do so. These reminders should be sent at reasonable time intervals throughout the field period’s duration. Researchers can also use phone reminders if that information exists for sampled individuals.

Panel-based Internet surveying has emerged in the past two decades and involves a group of respondents who have agreed to participate in an ongoing Internet research panel. Researchers recruit the panel members via various modes using probability or nonprobability sampling. In joining the panel, the members agree to complete a CAWI questionnaire on a semiregular basis for a fixed schedule and finite period (e.g., monthly for five years) or on a variable basis and/or indefinite time period. These panels likely do not include people who do not have internet access or possibly those who do not use the Internet regularly even if they have the service. In some panels that use probability sampling to build the panel, the non-Internet population is given an alternative mode to complete questionnaires. This is done so that the panel will be more representative of the general population than the Internet-only panels. Internet data collection provides researchers with great flexibility in terms of the audio or visual stimuli they can use as part of data collection (e.g., play an audio clip of a recent speech of the President). Although the internet mode is prone to primacy effects, these are handled by randomizing the response options with a list as seen by different respondents.

8.4.6 Mixed-mode data collection

There is an increasing tendency for surveys to use more than one mode for recruitment and for data collection purposes, and the same modes may not be used for each stage within the same survey. When multiple modes are used to gather data the researcher

must be very careful in determining whether the different modes have created any non ignorable measurement error related to the mode difference. Personal characteristics of the survey respondents are used as covariates (given that different modes of data collection often appeal to different types of people) to determine if there remain any meaningful mode difference in the survey's key measure. If there are meaningful mode-related measurement differences left after controlling for the different types of people who responded via the different data collection modes, then the researchers will need to consider other analytic approaches to “correct” for these data collection mode-differences. These should include:

- Analyze the data separately by mode. Compare findings from each mode-specific dataset and take any differences that are observed across the data collection modes into account when drawing conclusions from the entire study.
- Use more than one of the advanced statistical approaches that have been reported for analyzing data gathered via more than one mode. For details on the design of mixed-mode surveys, see Dillman & Messser, (2010). Tourangeau (2017) also discusses issues in analysis of complex surveys. Compare findings from the various approaches and use that comparison to triangulate to what the conclusions from the study should be.

In all cases, researchers need to disclose in detail what they did and why they decided to use the analytic approach(es) they ended up choosing, including reporting the empirical results from the mode-related investigations that they used in helping them make their final decisions about their analytic choice(s).

9 Post survey adjustments

Postsurvey adjustments consist of data processing and statistical adjustments made to survey data before conducting substantive analyses. Communication researchers should take these steps to address potential errors in the survey data, missing data, and the weighting of data, as well as to create additional variables from existing survey data to use in analyses. These tasks all are meant to provide a final dataset which is (1) more accurate, (2) more representative of the target population, and (3) more useful for the purposes that the researcher(s) intended when the survey was planned.

9.1 Potential data errors

When a survey is completed, the researchers have what is often called “raw data,” which is a dataset not yet ready for the analyses that eventually will be conducted.

The researchers first should identify any errors that may have occurred through the data collection, data entry, or data coding processes. This would include an examination of the respondents' answers to assess whether any responses were outside the range of allowable responses and whether any data outliers exist outside the range of answers given by other respondents. Although the existence of data outliers does not automatically lead to the conclusion that a data error occurred, in-depth examination will explain the outlier and show whether it does or does not substantially alter the results of an analysis. This is especially important if paper and pencil questionnaires are used to gather data. With computerized means of data entry, it is far less likely for data errors to occur, but it is still possible.

9.2 Item nonresponse and imputing missing data

Survey respondents often fail to answer one or more survey questions within a given questionnaire. Depending on the mode of data collection, this item nonresponse can be either intentional (e.g., refusing to respond to a sensitive question) or unintentional (e.g., inadvertently skipping an appropriate question). Item nonresponse can limit the usefulness of the other answers given by these respondents if the missing answers occur for questions of special interest to the researcher. To avoid this possible loss of data, researchers can use *imputation techniques* to estimate what respondents are likely to have answered to a question that they failed to answer. The imputation process involves the use of other information – either from the survey or from an auxiliary source – to estimate the missing data for a given respondent.

Item nonresponse occurs more often in self-administered mail and internet questionnaires than in interviewer-administered questionnaires because an interviewer can encourage a response to a particular survey question, which is not as feasible with a self-administered questionnaire. In an Internet survey, researchers can program the computer software that administers the questionnaire to prompt people to respond when they leave a particular question blank, but a live interviewer is more effective. However, some research suggests that getting reluctant respondents to provide answers to certain questions may lead to inaccurate data on these questions from those respondents.

There are many forms of imputation, such as single value imputation, mean imputation, regression-based imputation, hot deck imputation, multiple value imputation, and others – that a communication researcher can consider using, and making such a decision and then carrying out the imputation is well beyond the scope of this chapter (cf. Rässler, Rubin, and Schenker. 2008). Each of these imputation techniques has advantages and disadvantages. Researchers need to consider the specific circumstances of their survey when considering whether to employ data imputation techniques and which technique(s) to employ.

9.3 Weighting survey data

Survey researchers basically weight survey data in three instances: (1) with probability samples to correct for any unequal probability of selecting members from the sampling frame, (2) a non ignorable amount of noncoverage in the sampling frame, and (3) a non ignorable amount of unit nonresponse. In each instance, researchers develop postsurvey weights and apply them in any calculations of sample estimates or standard errors to try to improve the likelihood that their final dataset is an accurate representation of the survey's target population (Valiant, Dever & Kreuter 2013). Any researcher who does not weight their survey should disclose why that was not done.

In communication research, it is difficult to assess the prevalence of the use of such survey weights because they are inconsistently reported in the major communication journals. In examining a recent year of issues of major communication journals such as *Journal of Communication*, *Communication Research*, and *Mass Communication & Society*, there was no mention of survey weights in any of the articles reporting data from probability samples. Details on impediments and challenges, as well as the importance of such weights is provided by Gelman (2007), Solon, Haider and Woolbridge (2015) and Bollen, Biemer, Karr, Tueller and Berzofsky (2016). We believe that communication journal editors should require that researchers address the issue of weighting – why and how they did it, or why they did not do it – in manuscripts that use surveys to gather data.

Weighting is used to try to reduce bias in one's final dataset, but as noted earlier in the chapter, weighting typically adds imprecision to the final dataset and this imprecision is quantified by a survey's *deff* and its ESS.

9.4 Creating additional variables

Often a survey researcher will want to create additional variables for the purposes of conducting analyses based on the original survey data. This is a task that requires creativity on the part of researchers to think about how to form something new of value out of “the building blocks” that are available. For example, in recent years, the ways that people inform themselves have become increasingly varied. This has added considerable complexity to the tasks that communication researchers must confront when thinking about understanding which media people use, what television programs they view, and how much time and attention they devote to such things. Dilliplane et al., (2013) devised procedures suitable for online surveys in which respondents are presented with lists of popular public affairs news programs and ask people to check which ones they watch regularly. The lists were derived from TV ratings. The programs then can be coded into “political orientation” types, such as programs with a Republican, Democratic or neutral slant. The resulting patterns of

checks that people report for various programs can then be used to create new variables about people's preferences for partisan or more neutral news sources. Through various combinations of choices, a researcher can create new variables, measuring for instance respondent's preferences for exposure to likeminded or conflicting news. These new variables, derived from relatively simple measures, are especially useful when addressing important research questions about selective exposure in the diverse media and information universe that exists today.

10 Conclusion

This chapter has presented a comprehensive explanation of surveys and the scientific methods of conducting them in the field of mediated communication. The results of comprehensive random population surveys are foundational to understanding the nature and scope of the complex information environment that people have available these days, considering traditional and online media. To commemorate its 75th year, NORC at the University of Chicago conducted a major probability sample survey of people's use of contemporary public communication efforts (NORC 2016). The study showed that Americans increasingly embrace online sources of information, but most people inform themselves using a mix of digital information sources and legacy media. Legacy media were found more trustworthy than social media. Information habits are somewhat shaped by education and age and people are more likely to use online information resources for shopping decisions than for public policy information.

One conclusion is that media use has become more varied and complex, and harder to measure. Continued innovation in question construction and innovative research designs, often combining randomized experiments built into representative probability surveys, are necessary to build bulletproof theories of media effects in this complex information environment. Policy relevant work on phenomena such as media cannot typically be conducted entirely in the lab. To be relevant to ongoing policy debates and relevant to legislative leaders and other policy makers, evidence of real-world contexts and events is usually required. Carefully done population surveys and survey experiments provide these kinds of data. Communication has a long history of such work and the discipline seems poised to continue this tradition long into the future, guided by the Total Survey Error (TSE) philosophies and results.

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14 Experiments

Abstract: Experiments are an attractive research option because they offer the best method for determining causality. By randomly assigning subjects to different conditions and manipulating the independent variable, scholars can isolate the effect of a treatment on an outcome of interest. Although these essential components of the method remain constant, there have been several recent innovations in the implementation of experiments. In this chapter, we aim to review several of these techniques that are particularly relevant to the field of communication. In this chapter, we review innovative techniques for incorporating choice into experimental design and for expanding research populations to include elites. This chapter also addresses the use of experimental design and techniques via social media. Advances in experimentally manipulating social media in realistic settings offers techniques that uphold the internal validity of experiments while also seeking to extend external validity. After discussing choice in experimental design and experimental research on elites, we review experimental studies using comment sections, Facebook networks, Facebook ads, and Twitter.

Keywords: Experiments; experimental design; social media; internal validity; external validity; message effects

Experiments are an attractive research option because they offer the best method for determining causality. By randomly assigning subjects to different conditions and manipulating the independent variable, scholars can isolate the effect of a treatment on an outcome of interest. Although these essential components of the method remain constant, there have been several recent innovations in the implementation of experiments. In this chapter, we aim to review several of these techniques that are particularly relevant to the field of communication.

First, although experimental research offers strong internal validity, concerns persist about its external validity, or whether experimental results can be generalized to different settings, populations, or treatments. Recent innovations in experimental design have tackled precisely this critique. In the sections below, we review techniques of incorporating choice into experimental design and expanding research populations to include elites.

Second, experimental research in communication often exposes some people to message X and others to message Y, or to no message at all, and then evaluates the effects of the message on the dependent variables of interest. Political communication research, for instance, may compare the effects of one advertisement to another on intentions to vote for a candidate. The recent explosion of social media, however, makes studying message effectiveness more complicated because messages can be public, shared within networks, and included alongside many other messages on a variety

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of topics from news to wedding pictures. Advances in experimentally manipulating social media in realistic settings offers techniques that uphold the internal validity of experiments while also seeking to extend external validity. After discussing choice in experimental design and experimental research on elites, we review experimental studies using comment sections, Facebook networks, Facebook ads, and Twitter.

1 Including choice in experimental designs

The ability to choose among many options is a characteristic of today's media environment, but is infrequently taken into account in standard experimental designs. Traditionally, experiments randomly assign study participants to engage with different forms of media. The participants are forced to do so, even if they would not select that particular media type under ordinary circumstances. For example, scholars may randomly assign some to watch partisan news and others to watch entertainment programming and then compare their levels of political polarization afterward. Yet it's possible that the study subjects would not have selected partisan media on their own. From an external validity perspective, the concern is that the effects demonstrated under conditions of forced exposure won't generalize to the real world where participants can avoid content that is not of interest. To address this issue, scholars have been devising new ways to incorporate choice into experimental design; three of these techniques are reviewed in this section.

1.1 Participant preference experiments

One strategy for incorporating choice into media effects research is to find out if experimental effects vary depending on whether people say that they would use the media they are tasked to use in the experiment. For this design, study participants are asked to report on what media they use, or what media they would select if given the option. Study participants are then randomly assigned to different conditions and forced to engage with media as they would be in a traditional experiment. To analyze the results, researchers then test whether the experimental effects are moderated by whether people say that they would have chosen the media that they were required to see in the experiment. For example, Baumgartner and Morris (2006) conducted an experiment where participants were randomly assigned to watch clips from the political satire program *The Daily Show*, *CBS Evening News*, or neither. Results showed that those watching *The Daily Show* had less faith in the electoral system and trusted the news media less, among other outcomes. Participants also were asked to report the frequency with which they watched *The Daily Show* outside

of the experiment. The authors found that the effects of *The Daily Show* on attitudes about politics were greater among those who had little prior experience with the television show.

Another variant of this design has been used to better understand whether partisan news affects political polarization. Arceneaux and Johnson (2013) randomly assigned study subjects to view pro-attitudinal news, counter-attitudinal news, or entertainment programming. They found that those who said that they preferred entertainment were more affected by viewing pro- and counter-attitudinal news than those who expressed a preference for news. Levendusky (2013) randomly assigned people to watch pro-attitudinal, counter-attitudinal, or balanced news. Those preferring like-minded news were more affected by pro-attitudinal content, displaying greater attitudinal polarization.

Participant preference experiments, the name for this sort of design, are useful because they provide a way of testing how experimental results would apply if subjects were given a choice. However, there are some challenges. The framework assumes that people's reactions after being forced to view media are identical to what they think if they chose the media on their own (Leeper 2013). This assumption may not always bear out, although the magnitude of the error appears to be small (Stroud, Wojcieszak, Feldman & Bimber 2014).

1.2 Selective exposure experiments

Another strategy to incorporate choice into experimental designs is to randomly assign some participants to conditions where their exposure is forced and randomly assign others to a condition where they have a choice among options (e.g., Gaines & Kuklinski 2011). Arceneaux and Johnson (2013) did just this. They randomly assigned people (a) to watch pro-attitudinal programming, (b) to watch counter-attitudinal programming, (c) to watch entertainment programming, or (d) to have a choice among pro-attitudinal, counter-attitudinal, and entertainment programs. The results showed that across several different outcome variables, such as attitudinal polarization, the entertainment and choice conditions did not significantly differ. The results suggest that the effects of partisan media are minimized when people can select entertainment and/or that those choosing partisan media are less affected than those making a different choice.

Using the method in a slightly different way, Druckman, Fein, and Leeper (2012) analyzed what happens to framing effects over time when people are allowed to make choices. They found that after experimentally seeing an issue framed in a particular way, those given a choice of information selected messages confirming the frame, and then developed more intense attitudes in favor of the frame compared to those in a control condition.

This experimental design advances our understanding of media effects in an era of choice. The caveat is that those in the choice condition may make different choices depending on the circumstances – a different set of options, choice circumstances, or point in time may generate different results.

1.3 Choice set experiments

Another way of incorporating choice into experiments is to explicitly test what happens when study participants are given different choice sets. When analyzing whether people choose likeminded information or not, scholars have varied the number and type of options available and then measured whether this affects what they choose (Fischer, Schulz-Hardt & Frey 2008; Stroud 2011). In one study, Stroud and Muddiman (2013) created two different news websites that were made as identically as possible, except that one conveyed information using a humorous tone and the other used a serious tone to discuss contemporary political issues. Experimental subjects were asked to browse one of the two sites at random. Their search behavior was recorded, and their attitudes assessed afterward. Results suggested heightened preferences for likeminded information and reduced tolerance for different political views when experimental subjects browsed the humorous, compared to the serious, site.

As with the selective exposure experiments, choice set experiments are affected by the choices provided. If study participants wouldn't seek out any of the provided choices in the real world, then external validity concerns about forced exposure remain. One strategy may be to combine participant preference studies with selective exposure designs (de Benedictis-Kessner, Baum, Berinsky & Yamamoto 2016) or choice set experiments. More innovation is needed, however, to understand how to include choice with experimental designs.

2 Field experiments on elites

Experimental subjects are commonly college students, members of online panels, and community members. Studies using non-representative samples are often critiqued on external validity grounds, since it's not possible to know whether the effect generalizes to a broader public. Survey experiments that combine random assignment to condition with random sample surveys (see Mutz 2011) can be used to obtain more generalizable effect estimates. Another innovation in selecting experimental subjects is to experiment on elites. Many public opinion theories emphasize the influence of elites – be they elected officials, journalists, or government employees (e.g., Price 1992). The studies below randomly assign elites to different treatments and then

evaluate how elites' real world behavior is influenced. In the sections that follow, we describe a few recent studies looking at experiments on legislators, government offices, and journalists.

2.1 Legislators as experimental subjects

Experimental researchers have analyzed how elected officials are affected by contact from the public. One study looked at how legislators are affected by advocacy groups. Bergan (2009) worked with the American Cancer Society and the Campaign for Tobacco-Free Kids to test the effectiveness of emails about a smoke-free workplace bill in New Hampshire. Activists from the organizations were contacted and asked to send an email about the legislation. The software used allowed the organizations to purposefully select which legislators would receive the emails based on the randomization scheme Bergan developed. By looking at the legislators' votes, the results showed that grassroots email campaigns can affect legislator behavior.

In another study, Butler and Broockman (2011) randomly assigned legislators to receive an email requesting help with registering to vote, sent from either a Black or White name, with or without party identification. They measured responses to the messages, and found that White legislators of both parties were less likely to reply to Black names even when the messages included partisanship, whereas minority legislators were more likely to reply to emails from Black names. This research demonstrates the practical and theoretical insights that can come from broadening our understanding of who can serve as experimental subjects.

2.2 Government offices as experimental subjects

Rather than randomly assigning individual government representatives to conditions, another option is to assign entire governmental offices to different treatments. Hess, Hanmer, and Nickerson (2016) tackled voter registration rates as part of the National Voter Registration Act (NVRA). In one experiment, local jurisdictions in one state received an email about a NVRA computer training module in either August or in November. Jurisdictions receiving the training email in August submitted more voter registration applications in September and October than those receiving the training email later. The effect was particularly pronounced in jurisdictions that already had a higher rate of voter registration.

In a second study, Hess and colleagues (2016) randomly assigned county social service offices to receive an email reminding them of their obligations under the

NVRA, the same email with additional information about their past voter registration performance, or no email. Results showed that the reminder email increased voter registration, but only among those offices already more successful at voter registration. These studies demonstrate the utility of randomizing government offices to conditions in experimental research.

2.3 Journalists as experimental subjects

Journalists are influential in deciding what stories make it into the news (Shoemaker & Vos 2009) and setting the agenda for public attention (McCombs & Shaw 1972). As such, field experiments targeting journalists' decision-making are possible. In a first-of-its-kind study, Graves, Nyhan, and Reifler (2016) analyzed the use of fact-checking in U.S. newsrooms. Fact-checking is a style of reporting whereby claims made by public figures are assessed for their veracity. In their analysis, Graves and his co-authors randomly assigned newspaper reporters to receive a message highlighting the prestige of fact-checking in the news industry, a message describing news audience demand for fact-checking, or neither. The prestige messaging increased fact-checking compared to the control. These results suggest that journalistic practices can be influenced by external appeals, and that newsrooms and reporters can be subjects in experimental research.

As these examples demonstrate, scholars are pushing the boundaries of who can serve as a subject in an experiment. These studies have important implications for understanding how institutions and elites are influenced. They also have both theoretical and practical insights for changing behavior.

3 Comment sections as experimental sites

In addition to allowing choice and including different types of participants, experimental research has been expanding to involve new forms of media, like comment sections and social media. Commenting online is common – 55% of Americans have left an online comment and 78% have read comments at some point (Stroud, Van Duyn & Peacock 2016). The space poses many challenges for experimentation, however. It is constantly changing because new comments appear over time and their distribution can influence others' behavior (e.g., Cheng et al. 2017). Thus, the stimuli is not consistent in real world contexts, which introduces variation. Further, the structure of the commenting section and its functionality influence how people behave; even seemingly minor decisions have effects. Two techniques for experimentally researching comment sections have been used; each are described below.

3.1 Creating artificial comment sections

One common technique for experimenting with comment sections is to program a space that looks and functions like a comment section, but that is created for the sole purpose of the experiment. Research in this vein has found that the presence of incivility in a comment section affects how people behave online and their subsequent attitudes (Anderson et al. 2013; Chen & Lu 2017). The structure of the comment section affects whether one leaves a comment and the substance of the comment left (Peacock, Scacco & Stroud in press). The buttons available, whether “Like” or “Respect,” can also influence how partisans respond to comments on politically charged issues (Stroud, Muddiman & Scacco in press). Further, moderation practices and journalistic involvement play a role in commenters’ behavior (Wise, Hamman & Thorson 2006; Ziegele & Jost in press).

The important concern with these sorts of studies is whether individual behavior within the artifice of an online comment section is similar to how people act in actual comment sections. As reviewed next, field experiments present one way of addressing this concern.

3.2 Field studies in comment sections

Field studies in comment sections can overcome the shortcomings of creating comment sections in the lab. The difficulty with doing field studies in comment sections is that it requires access to the comment section programming and the ability to perform random assignment. Facebook’s research team has this access, and in one study manipulated whether comments on large public pages displayed in order of number of likes or in order of the most recent comment (Berry & Taylor 2017). Among those choosing to leave a comment, their comments were of higher quality – more relevant, in-depth, and engaging – when they saw the other comments ordered by number of likes than by the most recent comment. This research shows the benefits of randomizing comment section experience in the field.

4 Conducting experiments in Facebook networks

Facebook is the dominant social networking site in America, used by over 68% of American adults (Greenwood, Perrin & Duggan 2016). Social networks are already known to influence political opinions and behaviors (Huckfeldt & Sprague 1987; Katz & Lazarsfeld 1955; Lazarsfeld, Berelson & Gaudet 1944), and the widespread adoption of Facebook raises questions about the extent to which social influence occurs

on the platform. Untangling causality in networks is particularly challenging given their general homophily, in which behaviors and members often form recursive loops (Bakshy et al. 2012a). Furthermore, scholars face practical challenges when looking to conduct experiments within Facebook networks without direct engagement of the platform's Data Science Team. One solution introduced by several scholars is to recruit existing Facebook users to serve as subjects or confederates, and randomly assign either users or their friends to an experimental condition. Three such techniques are reviewed below.

4.1 Randomization at the user level

One way of doing experiments on Facebook consists of recruiting people for a study on the platform, and randomizing these users to either a treatment or control condition. This design can explore the role of Facebook use on individual-level outcomes. Subjects use the platform in the prescribed manner, with results measured through a follow-up survey. Theocharis and Lowe (2015) used this method to explore the impact of joining the platform on political participation, recruiting Greek citizens who were non-Facebook users to their study. Half were assigned to use the platform for a year, while the others did not. Ultimately, joining Facebook had a deleterious effect on offline and online participation among the previous non-users. Castillo, Petrie, and Wardell (2014) explored the role of financial rewards on inducing an organization's donors to share fundraising asks on Facebook, randomly asking subjects to either post directly on their wall or send a direct message to a friend (or a control group). Adding \$1 or \$5 to the donor's contribution increased the likelihood that they would share the appeal on Facebook; subjects were also more likely to share on their wall than direct-message a friend. Another experiment assigned subjects to different posting frequencies and measured their feelings using a pre-test post-test questionnaire. Posting more frequently resulted in a reduction of loneliness (Deters & Mehl 2013). Gonzales and Hancock (2011) assigned subjects to either look in a mirror, look at their Facebook page, or do neither, and found that looking at one's own page increased self-esteem, measured using a survey.

Facebook's Data Science team has made public the results of several internal studies in which users were randomly assigned to some experiential aspect of the platform. Although scholars working independently are not able to manipulate internal aspects of the platform, these studies offer examples of outcome variables that scholars could easily measure. A recent experiment assigned a user to one of three peer engagement conditions in which their friends were encouraged to comment and like their friends' posts (Eckles, Kizilcec & Bakshy 2016). The results showed that subjects who received increased feedback commented and posted more frequently. One widely-publicized study on emotional contagion manipulated users' newsfeeds, removing either positive or negative content. The researchers then measured subjects'

subsequent status updates, and found that positive words increased and negative words declined when negativity was reduced from one's feed (Kramer, Guillory & Hancock 2014). Similarly, negative word use increased and positive word use declined when positivity was reduced from the feed. Bond et al. (2012) explored the impact of users seeing an "I Voted" button that either included images of the user's friends who clicked the button or did not, and found that the social condition increased both the rate of button clicking and verified turnout. Another experiment measured the impact of links shared by a user on subsequent re-sharing of the same link (Bakshy et al. 2012a). At the time of the initial share, the user's friends were assigned to have the link either displayed or removed from their feed. Facebook measured the likelihood of the user's friends sharing the links onward, and found that users who saw the links were 7.37 times more likely to share them onward.

The choice to randomize at the user level is best suited for studies that seek to measure outcomes from these same individuals, either on or off of the platform. In addition to capturing results with surveys, scholars could obtain Facebook data from their subjects, and analyze outcomes such as the frequency and sentiment of subsequent status updates posted by the user. Researchers using this technique would need to obtain consent from subjects to monitor their Facebook usage during or after the study, and may want to "friend" all subjects to ensure compliance with experimental methods. User data can be obtained either through hand coding, asking users to download their Facebook data from their settings page, or collecting it with a Facebook app or browser plug-in.

4.2 Randomization at the network level

Another option for experimentation on Facebook is to assign users to deliver a treatment and then measure the outcome variable among members of their networks. This method is ideally suited for treatments that do not involve status updates or direct messages and as such cannot be restricted to a subset of users. To utilize this design, the researcher must first recruit a sufficient number of confederates to carry out the treatment, and then control for confederate-level variance and network size in the subsequent statistical analysis. Results could best be measured at the level of the network member or within the network as a whole. For example, the outcome variable could be the percentage of members within a network who commented on a profile photo, or liked a status update.

Experiments randomized at the network level are relatively limited. Anspaugh (2016) utilized 37 confederates in a study assessing the impact of posting news links that were visible to their entire network. Confederates were randomly assigned to a control group, or to share news from a liberal or conservative position. The confederates chose gun control as their issue of interest, since it matched with their random ideological assignment and avoided the confound of posting articles that did

not reflect their beliefs. After sharing two news articles, the confederates then sent a follow-up survey to thirty friends with whom they had interacted recently on the platform. Anspaugh found that assignment to both pro- and counter-attitudinal posts on Facebook increased political polarization. Other potential applications of network-level designs include asking confederates to change their profile picture, birth date, or political views.

4.3 Randomization within networks

Facebook's technological affordances also enable a third option: randomization within existing networks. Through the use of the Friend List feature, it is possible to expose a randomly selected subset of a network to the status updates posted by a friend. To facilitate the use of this method, confederates can download a list of their Facebook friends, match them to an external data source if needed, and then randomly assign contacts to a treatment or control group. Again, the number and friends of the confederates dictate the sample size for this experiment; an indicator for each confederate should be added to any statistical model as both a control and moderating variable.

Several studies have looked at the role of Facebook ties on voter mobilization. Teresi and Michelson (2015) explore the role of posting political news articles by a graduate student, who made friend connections with students at a large public university prior to the study. Half of the 604 participants were randomly assigned to see political posts in the months before the 2010 election, and the other half were not. The treatment increased turnout by 8.22 percentage points over the control group. Haenschen (2016) conducted several similar studies within existing networks, first matching the confederates' friend list to the voter file and randomly assigning matches to one of four conditions. She found that directly tagging friends in messages that contained social pressure messaging increased turnout by 16–24.3 percentage points among subjects in the pride and shame conditions, respectively. A follow-up study explored the impact of being exposed to the social pressuring of others on Facebook: subjects who saw their friends tag people in messages praising them for voting exhibited increased turnout, but only among those with limited prior voting history.

Within-network designs can be adapted to a variety of research questions in political communication, including the impact of sharing news within networks, or making appeals for fundraising or volunteerism. Such studies could also be carried out through direct messages, though these treatments lack the visibility of posts made in the newsfeed. Researchers using either the entire-network method outlined above or this within-network approach should “friend” the confederates to monitor compliance with research protocols; for the latter, the researcher should be added to any Friend List groups for which treatments are made visible. Additionally, while

informed consent may not be practical prior to the experimental treatment, confederates or the researcher could provide information about the study to participants after the fact.

5 Advancements in Facebook advertising experiments

In 2016, Facebook generated over \$26.8 billion dollars in revenue from advertising, representing 97.3% of what the tech company took in for the year (Facebook 2017b). As Facebook ads have become a commonplace communications tool for businesses, political organizations, and campaign operatives, they have also emerged as a mechanism for academic experimentation. Here we review recent research by academics and members of Facebook's data science team. These experiments capture a range of dependent variables, from interactions with the ads itself (Ryan 2012), to responses to a telephone survey (Broockman & Green 2014), to public voting records (Haenschen 2015). All offer advancements over the basic method of ad testing described below.

Facebook encourages advertisers to test content, and even offers instructions for how to test content or targeting (Facebook 2017a). The most common form of test is to upload multiple versions of advertising content to the same ad campaign, varying images and messages to see what produces the highest click-through rate, page likes, donations, or sales. One case study published by Facebook (2011) details the use of online ads by a ballot initiative campaign in Florida; due to a limited budget, this was the only form of voter contact available to the campaign. To optimize their messaging for different groups of voters, they tested different ad versions for male and female audiences in different age buckets.¹ Once they optimized the message for each group, they ran a campaign in Dade and Broward counties, and combined the ads with remarketing to target banner ads at the people who clicked on them. Facebook's case study argues that the campaign's ads were a success and improved voter performance in the areas where they ran.

However, this method is not without its methodological drawbacks for academic researchers. To administer these content tests, Facebook used what is called a multi-arm bandit model to test multiple variations against each other simultaneously (see Vermorel & Mohri 2005 for an explanation). Once the algorithm determines that one ad in a campaign is performing better than others, it will shift resources to that ad, such that it shows more times than the others. Essentially, Facebook optimizes within

¹ While this is similar to the clustering technique introduced by Ryan (2012), in this instance the Florida campaign was testing multiple messages against each other within each cluster, rather than assigning each cluster to receive one message.

its own content tests; for example, if one version of an ad is particularly effective with women aged 30–34, Facebook will prioritize showing that ad to that demographic within the testing group, in effect inflating that ad’s performance. Furthermore, many tests conclude without every possible subject having been exposed to an ad.

Several academics and Facebook staffers argue in a joint paper that what they term the “observational” method of testing ads using Facebook’s internal mechanisms is inferior to running a truly randomized, controlled trial in which each subject is isolated into one experimental condition and all subjects are fully treated (Gordon et al. 2016). The researchers re-analyzed dozens of Facebook ad experiments to show that the observational method described above often fails to produce the “true” results; using a matched-pair analysis can reduce this bias. Finally, the authors emphasize the importance of using the conversion pixel feature in click-through tests, since the pixel measures the number of instances in which subjects actually reach the web page that signifies a successful action as opposed to simply clicking on the ad.²

Although Gordon et al. (2016) identify problems with using Facebook’s internal method for testing, several scholars and industry practitioners have introduced innovations in ad targeting that enable robust experimentation on the platform. These techniques are reviewed below, followed by research that emphasizes the role of social cues in advertising.

5.1 Targeting strategies on Facebook

Although the basic advertising test outlined above may work for some tests, researchers that want to explore the impact of being assigned to receive an ad at all need other methods to isolate the control group. The approaches to targeting Facebook ads presented here address the challenges in separating audiences to avoid spillover effects, and measuring dependent variables resulting from ad exposure. The first method, introduced by Ryan (2012) and discussed extensively in Ryan and Broockman (2012), consists of cluster-based assignment. The second utilizes Facebook’s Custom Audience feature, which enables the advertiser to target ads to a list of email addresses, and has been used effectively in experiments to increase fundraising and voter turnout (Haenschen 2015; Huynh, Blackaby & Bunnnett 2014).

Cluster-based sampling randomizes exposure to the ads at the combined level of geography, age, and sex. First, the researcher makes a list of all of the cities, states, or ZIP codes in which the study is to run, then makes an exhaustive list of all combinations of

² For instance, if a company is testing the effect of different ad campaigns on sales, they would place the conversion pixel on the page shoppers reach *after* buying something, to measure how many people clicked the ad and completed a purchase.

geography, sex, and age. For example, if this strategy were to be used in Austin, Texas it would produce 78701-Male-26, 78701-Female-26, 78701-Male-27, and 78701-Female-27 as distinct clusters. Once all place-sex-age clusters are created, treatment is then assigned at the cluster level. Ryan (2012) introduces this method to test the impact of anger-inducing ads on information-seeking, measuring the outcome in terms of click-through rates on the ads. In a subsequent study, Ryan and Brader (2015) explore the impact of damaging information on presidential candidates, varying the candidate (Obama or Romney), nature of the attack (policy or personal), and target audience (liberal, conservative, or non-political), creating 846 overall clusters on age, geography, gender, relationship status,³ and ideology. They determined that people were more likely to click on personal attacks that were consistent with their own political orientation (e.g. liberals clicked on personal attacks on Romney more than Obama). Broockman and Green (2014) create clusters using age, gender, and location to determine the impact of Facebook ads on candidate name recognition or favorability; they conducted a phone survey and used demographic data in the voter file to compare results by respondents. They did not find any impact of the ads on awareness of or attitude towards the candidate, but did find that the ads were recalled by subjects in some cases.

Email address-based targeting is also effective for what Huynh, Blackaby, and Bunnett (2014) refer to as “amplification tests.” Facebook advertisers can upload an email list via the Custom Audiences feature, and then target ads to any user who has an email on that list associated with their Facebook account.⁴ This enables the researcher to randomly assign a subject’s email address to receive either an ad or an email, both, or neither. This method has also been used to boost voter participation (Haenschen 2015): subjects who received a combination of social pressure ads and emails voted at a higher rate than a control group that received neither. Similarly, Facebook ads increase the effectiveness of fundraising emails, while also generating donations through clicks on the ads themselves (Huynh, Blackaby & Bunnett 2014; Willis 2014). The only caveat to this method is the necessity of an email list that is large enough to provide statistical power taking into account the list’s match-rate to Facebook. If, for example, only 20% of subjects on the list match to the user database then the actual impact of treatment would need to be quite large to show a statistically significant effect.

³ They note that since users can only have one status at a time, i.e. married vs. engaged vs. single, using a specified relationship status increases the number of clusters while also preventing spillover effects.

⁴ All Facebook users have some email address associated with their account – this is what they use to log in with and where notification emails are sent. It is possible to have multiple addresses associated with an account; connecting an .edu email to one’s account was the method Facebook initially used to verify enrollment at a university.

5.2 Increasing ad effectiveness

Experimenters have also explored the role of social recommendations – essentially, showing that a friend Likes a page or product – on Facebook ad effectiveness. Internally, the Facebook Data Science team tested the impact of including friends’ names or images on ad effectiveness, finding that including the social cues increased click-through and page like rates (Bakshy et al. 2012b). In their first study, they found that increasing the number of friends named in the ad from 1 to 2 or 3 increased clicks and likes on the ads by 8–10%. A subsequent study found that the inclusion of a friend’s name in the ad rather than the total number of fans of the page increased click rates by 5% and page likes by 10%. Furthermore, tie strength (as measured by frequency of communication on Facebook) exerts an upward influence on the response rate; closer ties increase ad effectiveness.

6 Experiments on Twitter

Although only 21% of all American adults use Twitter (Greenwood, Perrin & Duggan 2016), the platform has taken on a heightened significance in political communication due to its high rate of adoption by reporters, candidates and party committees, elected officials, and advocacy organizations (Golbeck, Grimes & Rogers 2010; Jungherr 2016; Kreiss 2016). Much of the research on Twitter has focused on studying the data produced by individual users of the platform, collected either through the API or manually from users’ pages (see Jungherr 2016 for a thorough review).

Twitter presents a challenge for experimenters due to the need to randomize assignment to treatment; currently, the platform does not enable users to restrict the visibility of tweets to a subset of their followers. As such, it is difficult to isolate treatment and prevent spillover effects (see Coppock, Guess & Ternovski 2016 for an in-depth discussion). Recent experiments using the platform have focused on using Twitter’s direct messaging (DM) capabilities, assigning subjects to receive a particular kind of response, or randomly assigning inducements to use the platform itself.

6.1 Field experiments on Twitter

Two recent experiments meet Twitter users where they’re at, randomly assigning members on the platform to a stimuli and measuring their responses. Both studies’ treatments are “as realistic and unobtrusive as possible,” which is what distinguishes a field experiment from a survey or lab experiment (Gerber & Green 2012: 9). The first study to use this approach explores the effectiveness of tweets verses direct messages in terms of generating petition signatures. Coppock, Guess & Ternovski (2016) randomly

assigned a subset of Twitter followers of a national environmental organization to one of three conditions: the control group was only exposed to a public message sent by the organization's account, whereas the two treatment groups were exposed to the public message and a DM referring to the subject as either a "follower" or an "organizer." In all messages, subjects were asked to sign a petition and retweet it; of those who actually signed, half were then asked to Tweet the petition to their own network. In two iterations of the study, the public tweets produced exactly zero signatures, whereas the DMs measurably increased signatures. Subjects asked to Tweet were also more likely to do so, demonstrating how the platform can be used to increase virality. Referring to subjects as organizers or followers had no impact. The study is notable for its careful design, including the use of a custom URL to track subject responses to the petition ask.

In another study, Munger (2016) utilized a band of Twitter bots to respond to strangers using racist language on the platform. He developed four male-presenting bots – two White and two Black, each of which had either a high or low follower count – and utilized them to respond to White males using an anti-Black slur on the platform. He found that White bots with high follower counts reduced subsequent use of the slur word among subjects for a full month, demonstrating the power of in-group appeals from high-status individuals in curtailing behavior. However, subjects that received a response from a Black bot with a low follower count increased the subject's subsequent use of the racist slur. The study used a clever approach to randomizing exposure, in addition to a thoughtful development of the bot accounts, including names, profile avatars, follower counts, and tweet streams.

6.2 Assignment to Twitter use

Although the aforementioned studies are the only two field experiments on Twitter published to date, there are several other notable experiments that randomly assign subjects to use some aspect of the platform. Through the use of a survey firm, Kobayashi and Ichifuji (2015) recruited subjects from an online panel and assigned half to follow a specific candidate for office on Twitter; all participants (treatment and control) were asked to follow two other candidates as a placebo. Using a follow-up survey, they assessed the impact of exposure to the candidate on knowledge of issue positions, personal trait assessment, voter turnout, and positive assessment of the candidate; only the latter was significant. The authors noted the challenge of attrition during the study, with subjects either refusing to follow the politicians or making their accounts private. Using cluster sampling, Junco, Heiberger, and Loken (2011) assigned four sections of a first-year college course to sign up for Twitter and provided an hour of training on the platform; three other sections were set aside as the control group. Joining Twitter and engaging in academic discussions increased grades and student engagement as measured on a follow-up survey.

7 Concluding thoughts

The new approaches reviewed throughout this chapter represent exciting developments in research methods that heighten the attention paid to the external validity of experiments. Scholars have devised a number of ways to combine the key strength of experiments – internal validity – with strategies for improving their generalizability. Two trends cut across the approaches reviewed above. First, many of these studies use behavioral outcome measures. Instead of asking people whether they intend to leave a comment, for instance, researchers are programming a commenting interface that allows people to leave a comment if they so desire (e.g. Peacock, Scacco & Stroud in press). Other research is using voter records to assess whether people actually voted (e.g., Haenschen 2016). This development is important in light of research questioning the validity of survey responses (see Prior 2009 for one example). Second, many of these studies are field experiments that take place in the real world and closely mimic the studied phenomenon in its naturally-occurring context.

These new methodologies also raise questions about the ethics of experimentation. Traditional procedures of informed consent and the ability to opt out are not always practicable in these studies, and can conflict with trends toward real-world field experiments. The Facebook study on emotional contagion described above is a case in point (Kramer, Guillory & Hancock 2014). The online publication begins with an “Editorial Expression of Concern and Correction” in which editor-in-chief Inder M. Verma notes that the lack of these procedures in the study were matters of concern. Currently, companies like Facebook are not bound by Institutional Review Boards, and scholars can evade IRB entirely by partnering with outside organizations and thus rendering their work exempt from expedited or full-committee review. As a result, research ethics take on heightened importance.

Other ethical questions are raised when the dependent variables in research are real world outcomes, such as the passage of legislation or an election. There has been increasing discussion about whether scholars should be doing this sort of research. Such debates are made more complicated by the fact that campaigns and businesses are routinely doing this research with a vested self-interest and without any obligation to share their results publicly. The academy’s ethical obligations to research participants must be balanced by the benefits of academics furthering our understanding and publicly distributing findings on communication effects. How researchers and institutions will deal with these ethical challenges remains in flux.

The experimental method presents many benefits to scholars hoping to understand causal relationships, to practitioners looking to have a measurable effect, and to the public desiring to know how they are affected. Efforts to strengthen the method’s traditional external validity shortcomings are laudable. Adapting the method to social media is particularly important not only due to social media’s dominance in people’s daily lives, but also because social media shed insight into how people behave as members of networks. Although the basics of experimental design remain

intact, the innovations discussed in this chapter highlight many new methodological approaches being pursued.

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15 Audience Ethnography

Abstract: Audience ethnography uses a research methodology borrowed from anthropology and adapted to the study of media and, in this case, audiences. The chapter builds on academic research about audiences, including how audiences interpret the content of media messages, how they frame relationships among audience members, and the everyday context of media use by audiences. It also draws on media industry research about audience size, composition and engagement.

Ethnographic research about distant cultures was well established by the late 19th and early twentieth centuries. By the mid-twentieth century, it was adapted for the study of cultural values in developed countries and by the 1970s it was adapted for the study of media behavior in both academic and media industry research: academics to build theoretical models of audience behavior; industry researchers to develop new content for audiences and to learn how to best market new media technologies and services. The chapter also addresses the practice of ethnography, including the composition of study groups, timing of visits to homes, recruiting and informing participants about the goals and uses of the research.

A case study of television viewing is provided. It treats the diverse ways in which audiences consume video, blurring the lines between traditional television viewing on a TV set with the many other ways audiences are consuming video content. Three changing patterns of audience behavior are identified: device shifting, place shifting and time shifting.

Keywords: audiences, media ethnography, qualitative research, hybrid research models, participant observer

1 Introduction

This chapter provides a brief history of ethnography as a research method, how it has been adapted to the study of everyday behavior and its role in understanding media audience behavior. It discusses the practice of ethnography by those who use it to understand audience behavior, including recruiting, informing study participants, practical tips in conducting ethnographic research, and hybrid models that combine ethnography with other research tools. To illustrate what audience ethnography can contribute to our understanding of audiences, we provide a case study of television viewing.

To place audience ethnography in context, it is helpful, first, to understand the ways in which the academic research community and the media industry have conceived of and studied audiences. The study of media audiences has a long

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tradition in academic research. It offers insights about how audiences interpret the content of media messages, how they frame relations among people who make up the audience, and the everyday context of media use by audiences. Empirical audience research became prominent in the 1980s when it was seen as a way of understanding cultural processes within societies. Audience reception studies have tried to understand how content is interpreted through a set of codes, presuppositions, and interpretative frames applied by audiences. Hall (1980) identified the processes of coding and decoding, that is, embedding meaning in audio, visual, and textual “symbolic languages,” and the interpretation of these symbols by audiences. Audiences are understood to be a part of the system where mass communication is a circuit of production, circulation, reception, and reproduction. Each of them is part of the meaning-making process. This led to debates about active versus passive audiences, when interpreting individual media consumption choices. Uses and gratifications theory (Blumler, Gurevitch & Katz 1985) saw audiences as consumers who are guided in their consumption by the needs they seek to gratify, for example, entertainment or information about a subject. It uncovered the “sense-making” activities of audiences in navigating the conventions and rhetoric of media content. Looking at these sense-making activities, researchers identified political and economic powers of major media conglomerates and pushback against these forces by audiences, termed “resistant audience” by Curran (1990). More recent audience research has focused on collective and individual experiences of living in a digital world. As media became networked, with many forms of interaction possible (mass or niche, one way or multiway, vertical or horizontal), audiences have become empowered, allowing them to have greater equality with producers/distributors of content and become “producers” (Bruns 2008). They engage not only with media but with the world through media (Deuze 2012).

The media industry has also been active in studying audiences, but this research had a different motivation and has taken different forms. By measuring people’s exposure to media content, through “ratings,” media organizations developed a set of metrics and measures to authenticate audience size, composition, and engagement. Those metrics are the foundation of a market information regime, which allows media companies to set a price for advertising space and time, and guides advertisers in allocating their budgets. Ratings services have become an important part of the media market information ecosystem, defining what is measured, how it is measured, and providing interpretations about valuations of audiences (Webster & Phalen 2013; Webster 2016). As they evolve, adapting to the measurement of new media platforms, they provide common measures that can be used across geographic markets. Syndicated audience measurement services such as Nielsen have become major market players in discussions about audiences and also providers of “currency” in which media companies can set the price of their services to advertisers. Ethnography treats audiences in a different but complementary way.

2 Ethnography

Ethnography is a form of qualitative research that emerged from anthropology in the late nineteenth and early twentieth centuries. Anthropologists used it to study distant cultures, visiting with and often living with native people for periods of months and sometimes years. They were *participant observers* (Jacobs 1970) who took detailed notes about customs, behavior, and cultural values. Many anthropologists used photography, audio recordings, and film to record behavior and complement their written notes. Margaret Mead (1928) and Gregory Bateson (1936) pioneered the use of still photographs and film to capture behavior. Later, it became a sub-discipline within anthropology, called visual anthropology. Edmund Carpenter (1973) helped to popularize visual anthropology.

Since the cultures under study were, typically, not well understood, anthropologists concentrated on very basic behaviors and customs such as what people ate, how they dressed, the structure of their language, who could marry whom and the organization of ceremonies such as weddings and funerals. All of this was aimed at trying to understand the cultures of these native groups.

By the mid-twentieth century, some researchers began to use ethnographic research methodology to study everyday behavior in developed countries. Erving Goffman (1959) was a key figure in this transition. Students from a breadth of disciplines were trained to conduct ethnographic studies of behavior in a range of settings. Beginning in the 1970s, a number of scholars began to use ethnography to study media behavior. Europe took the lead (Morley 1978; Silverstone 1981), but researchers in the U.S. and Asia also adopted ethnography. It was not an easy transition as some social scientists resisted qualitative research that relied on observations and open-ended interviews of relatively small groups, rather than quantitative data gathered from large, random samples of a population. By the twenty-first century, ethnography was widely, if not universally, accepted by academics and commercial researchers. There are academic journals, books, and conferences devoted to ethnographic research. Many companies also employ ethnography to discern consumer tastes, wants, and needs. There is even an industry conference that showcases this research: The Ethnographic Praxis in Industry Conference. Focusing on media ethnography, companies such as ESPN, Intel, Microsoft, and NBC have employed ethnography to understand how people use media technologies and services, including audience ethnography.

Ethnographies can be comparative, for example, comparing audience behavior in two countries or comparing behaviors of younger and older viewers. They can also compare behavior over time, for example through visits to homes over a few or several years.

2.1 The practice of ethnography

Who does ethnography and why? Academics do ethnography to advance our knowledge of behavior, to build theoretical models based on actual observations in the field,

and to better understand a group so they can advocate for them (for example, disabled people who could benefit from better designed mobile phones and laptops). A broad range of companies do ethnographies, ranging from consumer product companies to technology organizations. The organizations that are most likely to conduct audience ethnographies include content companies, network distributors of content, and marketers. All of these groups of ethnographers go into homes, businesses, schools, and public places such as airports and sports bars to observe behavior, conduct in-depth but open-ended interviews, and identify patterns that reflect broader cultural values, new ways of communicating, and consumer attitudes. Of special concern in this chapter, many ethnographers study media audience behavior. For example, behavior associated with mobile telephones has been studied by ethnographers across a broad range of cultures (Katz 2006; Ling 2002). In some cases, ethnographers hope to learn about media behavior in more detail than can be discovered by other methodologies; in other cases, they hope to anticipate future changes in media behavior and technology adoption based on leading edge consumers.

One of the core principles in ethnography is to collect information and observe behavior where people live and work. The goal is to collect and observe firsthand rather than through secondary (but valuable) methods, such as a survey, or through research in an institutional setting, such as a focus group facility. A second goal in ethnography is to try to understand attitudes and behavior from the point of view of the person(s) being studied, rather than test a hypothesis generated by the researcher.

A key part of conducting an ethnography is recruiting: who do you recruit (for example, the demographic characteristics of the group); how many people do you recruit; and what is the process used to recruit them? Generally, ethnographies involve a relatively small group; 25 to 50 people would be common, though some ethnographies involve one hundred or more people. Should they be representative of the general population? Typically, they are not. Instead, they often represent a sub-group such as males in their twenties, people who watch soap operas, and people who go on social media during commercials. Should they represent different regions within a country or different countries? It depends on what is being studied. If the ethnographer believes that there might be regional or cross-cultural differences, then there are two choices: bite the bullet and absorb the travel costs, or accept as a limitation of the study that it might have missed some regional or cross-cultural differences. A compromise is to recruit participants from urban, suburban, and rural parts of one region in one country (or two countries, if it is a comparative study of two countries). But this can miss some behaviors.

A group of people who participate in ethnographic research is not a “sample.” This is a loaded term that implies some form of statistical sampling and could bring down the social science Sword of Damocles. It is much better to call them a study group or study participants. Further, ethnography is a form of qualitative research where it is not appropriate to apply statistical tests or even to indicate the number of people who reported some behavior. Instead of saying “15%” or “75%” it is more

appropriate to say “a few,” “many,” or “most” so as to give an indication of size or scope without quantifying it.

How do you recruit? There are several ways, some better than others. Cold calling on the phone no longer works in this day of robocalling telemarketers. A research team could hire a focus group facility to recruit from their panel of people who have agreed to participate in multiple research projects (even if you intend to visit them at home, not at the focus group facility). In our experience, this does not yield a good study group, since focus group staff are generally not trained to filter potential research participants beyond demographics or a characteristic such as ownership of a technology. You could place an ad on a Web site, but this might yield far more volunteers than are needed; it would be essential to talk to and screen them, to weed out crazies, people on drugs, and people who cannot string three words together.

In some cases, there is a natural group from which to recruit. For example, a company may be running a trial with a new technology and people who are part of the trial have agreed to participate in research about the technology. You can recruit from this group with the caveat that you are likely dealing with early adopters who may not resemble late adopters. In other cases, a company may have an existing panel of people who have agreed to provide feedback about the company's products. Some may be suitable but it is important to screen them. In the nonprofit world, an association may be able to recruit its members who are loyal to the association and are open to be contacted by it. It is best if the ethnography is not related to the goals or attributes of the association. Yet another, and simpler, tactic is to hire an ethnographer or research company that does ethnography who have an existing panel. With any panel, it is a good practice to not use people too often, for example more than once a year, to avoid creating “professional research participants.”

In all cases, potential participants need to be screened, for example through a phone call, to weed out inappropriate people who will add little to the research, and to filter for good “informants.” The concept of informants traces back to the early days of studying native groups. An informant is someone who can articulate likes and dislikes, behaviors of the informant and others, and provide insights that the ethnographer may have never thought about. This is very different from a survey of the general population where everyone's opinion counts and responses can be a simple yes or no, or a choice from a list of responses. Good informants are not necessarily highly educated. They are people who can articulate how they feel and what they do.

Some ethnographic research does not involve recruiting at all. The ethnographer goes into a setting, typically a public setting, and observes behavior. One example would be behavior in a sports bar with multiple television sets, where some customers also have smart phones and tablets. The observations could be passive or the ethnographer could engage people in conversations and become a participant observer.

Researchers who do ethnography tend to have an interest in meeting new people and engaging strangers in conversations. If a researcher would rather walk on a bed of nails than enter the homes of strangers, then chances are he or she should take

up another form of research. In the case of going into homes, the person or persons in the home should be fully informed about the purpose of the research, what will happen and approximately how long it will take. Should people be paid? In the case of academic research, it is often not necessary to pay them since they are helping to advance knowledge, but a token gift such as a coffee mug with the university name on it is often appreciated. In the case of commercial ethnographies, it depends. If they are participating in a trial of a new service and receiving it for free, they are already receiving a form of compensation. If not, yes they should be paid. The honorarium will depend on the number of people in the home who participate and how long it takes. A ballpark estimate would be \$50 for one person and a 60- to 90-minute visit, and up to \$100 or more for a group in the home and a two- or three-hour visit.

Should people be told the purpose of the study and, if so, in how much detail? Yes, they should be told, but not in such detail as to confuse them. The ethnographer is asking the participant in the study to open up about attitudes and behavior. Why would you hide the purpose of the study? This is not such a problem with academic ethnographies but a company might be concerned that knowing their name will introduce a positive or negative bias. In practice, it is not such a problem, especially if the researcher tells the participant that it doesn't matter whether they watch, for example, CBS, or not. They can be told that the purpose of the study is to learn about what they do and how they feel without regard to the company sponsoring it (unless, of course, the goal is to gather attitudes about the company).

Typically, the ethnographer going into homes will have a discussion guide about topics to cover but not a questionnaire. The interaction with study participants should feel like a conversation, not a formal interview. Can you change topics or questions with later participants based on what you learn from early participants? Here, ethnography differs from a survey. With a survey, a researcher might pre-test it and make adjustments, but once it goes into the field it is generally frozen. With ethnography, you often learn something from early participants that you never thought about and which is a promising lead. This "discovered" topic can be added for later participants. What's more, informants may have a lot to say about some topics and little to say about other topics. It is acceptable to adjust the time spent on each topic based on what the informant can provide.

There are also some language, gender, and age issues that affect the conduct of an ethnography. In pluralistic societies, many languages are spoken and a study group participant may feel more comfortable communicating in Spanish, Mandarin, or another language. It is possible to bring a translator to the visit but it is better to provide some training for a native speaker of the language so that they can engage in a conversation directly with the study participant. With age and gender differences, should the ethnographer match the age and gender of the study participant? It depends on the topic. If the topic is related to television programs, it is likely that a teenage boy would be comfortable talking to a 50-year-old female ethnographer about how he chooses what shows to watch. If it is about social media apps, there is a

possibility that a teenage girl would feel that a 50-year-old male ethnographer would not understand why Snapchat appeals to her. It is possible to train a person of similar age and/or gender to engage the study participant.

2.2 Hybrid models

Academic ethnographies are more likely to stand alone as a research study but they are sometimes complemented by a data set from a government agency, commercial research company, or academic source. It is also acceptable to provide industry data to set the context for the ethnography; for example, in studying how audiences use streaming video, it is acceptable to mention how many people have indicated that they do this from a survey or audience measurement source.

In commercial research, and certainly in our experience, the ethnographic study is likely to be part of a broader research program that includes quantitative and qualitative components (De Waal Malefyt & Morais 2012). In such cases is it better if the ethnographic research come before or after quantitative research, such as a survey? In some cases, especially when there is little knowledge about audience behavior involving a new media technology, it is beneficial to start a research program with ethnography and follow it with a survey. Ethnography helps in discovering patterns and the survey can quantify how many and what types of people are using the technology in these ways. In other cases, ethnography is a useful tool after conducting a survey to “put qualitative flesh on the quantitative bones” of a survey, i.e., to obtain more detailed information about a behavior identified in the survey. We have also used ethnography after a series of laboratory studies to determine whether problems identified in using a new technology within the limited time frame of laboratory testing would be resolved after people had the service in their homes for several months.

There are many other hybrid models for ethnographic research. One is repetition of visits. In general, ethnography involves one visit to homes in the study. However, in a case such as the Olympics where there is a great deal of coverage on multiple channels and streams, one issue is whether people can find the content they want to watch. One way to assess this is to visit homes on days one, two, or three to understand whether they can find content and how they are finding it, then go back several days later and learn if any confusion has been resolved and which search strategies worked best. This can inform the marketing and placement of programming information for the next Olympics and similar events that have overwhelming amounts of content.

Another form of repetition, developed by one of the large U.S. broadcast networks, is to go back to a percentage of homes from an earlier ethnography, two years later. The reasoning in this case was that the network knew detailed audience behavior in those specific homes (as opposed to new study group homes with similar demographics); has anything changed and, if so, why? For example, one study of baby boomer

homes in the early teens (Carey 2014) found that few parents were on social media. Going back to those homes two years later, we found that many were on social media as a way to communicate with their adult children who were now out of the home.

A core component of ethnography is to visit people in natural settings such as a home, office, or bar. Would a hybrid alternative of simply having a telephone conversation with them work? At a practical and theoretical level, this would lose the richness of interacting face-to-face and, further, you couldn't observe them in a natural setting. Having said this, one of the authors did precisely this under two special circumstances. In both cases, there was only a small number of people who had adopted the new technologies (satellite radio and digital video recorders, DVRs) and they were scattered far and wide. The respective companies wanted to learn anything they could to help market the technologies. In the case of satellite radio, many of the early owners turned out to be long-distance truck drivers, which was very useful to the marketing team (Carey & Elton 2010). In the case of early DVR owners, an experiment was tried. They were sent throwaway cameras with instructions about what to photograph (for example, the room setting where the TV and DVR were located) and a return mailer. Nearly all took the photos as requested and mailed back the throwaway camera, revealing very useful information about placement of the devices in a room (Carey 2001). Neither hybrid methodology is recommended but sometimes you just have to adapt to circumstances. What about the Web and smartphone cameras as a hybrid way to conduct ethnography? Some groups are experimenting with these tools but it is too soon to form a judgment.

Another form of hybrid ethnography is historical ethnography. Could a researcher discover how people experienced technologies 50 or 100 years ago? There have been several very good historical ethnographies: Marvin (1988) and Aronson (1977) about the telephone in the nineteenth century; Spigel (1992) about early experiences of people with television in the 1950s. Historical ethnography does not require a time machine. Instead, it borrows some of the tools historians use. It utilizes accounts of behavior and attitudes from the time period and about the time period. These can include newspaper and magazine articles, photos, and even historical novels. These must be filtered through a lens that focuses on the behavior of real people, not the activities of media moguls or government policymakers.

In some cases, there is a record of behavior that lends itself to a hybrid ethnographic study by borrowing some of the methods used in content analysis. In Reading, Pennsylvania, a group of senior citizens agreed to be part of a trial and research project using two-way interactive television to create television programs that were carried on the cable system to all homes in Reading that had cable. The goal was to use interactive TV to promote more communication by the seniors and higher quality communication. All of the programs were recorded and the behaviors were analyzed using a form of content analysis, e.g., who spoke, for how long, about what topics, and whether some seniors communicated more over time (they did). The analysis of the programs was supplemented by visits to the senior citizen centers where they created the programs (Carey & Quarles 1994).

2.3 Practical guidelines

As with other forms of research, there are guidelines and tips that can help overcome obstacles and improve the chances of meaningful learning. At the same time, it is important to recognize that ethnography involves a skill set as well as a methodology. The methodology can be taught but the skill set must be acquired. There are three key elements to the skill set. The first is to be a good listener and to listen for things that most people would not perceive, such as a subtle change in tone of voice. The second is to be a good observer and to see what others would miss. Both listening and observing can be practiced anytime and anywhere. The third skill is to develop new terms for behavior that has never been classified but which immediately conveys a meaning once the term has been introduced. One example would be “hyper-coordinate” (Ling 2002) to describe how people use mobile phones to precisely coordinate where they are or where they will meet at a mall, concert, or sports arena.

How do you make people feel comfortable with a stranger who has just entered their home? One strategy is to look around the home on entering and note some characteristic that is likely important to the study participant(s) and then relate to it in a personal way. For example, do they have a pet, several antiques, sports memorabilia, color coordinated furnishings...? Ask them about it and compliment them. Then sit down wherever is comfortable for them and tell them why you are there, what is going to happen, and how information will be used (even though you have already told them all of this over the phone).

When people are talking to you about what they do or how they feel about something, provide mild positive reinforcement (e.g., “That’s interesting”) – enough that they believe they are telling you something worthwhile but not strong enough to bias them. If you ask people to show you what they do but it is something where they would not likely speak while doing it, (e.g., how do they find or choose the TV shows to watch), ask them to think out loud about what they are doing and why. Most people can do this. Another tip is to be careful not to use terms for objects and locations you want to learn about. For example, you can ask what they call the space you are in or the device on the kitchen counter. What you might think of as a living room or kitchen, they might call a TV room or “Dad’s man-cave.” What you might think of as a computer, they may call by a nickname. From these details, it is possible to create a picture of the social and psychological relations between study participants and rooms or objects.

What if you suspect that a study participant is not being completely honest in his or her comments? There are a few ways to deal with this. One is to ask another household member about the person’s behavior or attitudes, when that person is not present. Another tactic is to come back to the topic 20 or 30 minutes later from a different angle. For example, it was not uncommon in the early days of digital video recorders (DVRs) for a study participant, when asked about viewing commercials, to say that he hadn’t watched a commercial ever since he got the DVR. When asked, 30

minutes later, if he had seen any funny commercials recently, study participants often could name some. This provided an opening to discuss which types of commercials and under what circumstances they watched commercials.

A few additional guidelines and tips: never do anything surreptitious, such as using a hidden camera. Trust is key to the relationship. If a person is under 18, be sure that there are two people from the ethnography team present. If a person is under 14, insist that a parent or family member is present. This can also help with very young children who may feel uncomfortable with an adult who is not a family member present. A parent can repeat your question, ask it in a way that the child understands, and even ask the child to show something they do which the ethnographer would not otherwise ask about, e.g., a 3-year old who cannot read or write but who sends imaginary text messages to grandma.

One tip in recruiting is to ask a study participant who has been a good informant to recommend someone just like them for the study. Most people enjoy being part of the ethnography and are happy to recommend a friend or colleague. They can also vouch that this is a legitimate study. This can go a long way in overcoming a common fear that the research is just a pretext for trying to sell them something. For those who want to recruit and maintain a panel for ongoing research, it is important to stay in contact with them, but not too often. An email twice a year is recommended. Last tip: never mention the word ethnography unless the study participant expresses an interest in the research process itself.

3 Audience ethnography: A case study of television viewing

This section provides an ethnographic case study of television audience viewing experiences. It is based on more than 200 visits to homes, offices, and public locations in four northeastern states. Some comparisons are made with earlier television viewing experiences drawn from earlier ethnographies (Carey & Elton 2010; Dobrow 1990).

The first question that needs to be asked is: what is television viewing? In the study homes, the distinction between watching video on a TV set from an over-the-air, cable, or satellite service was blurred with the many other ways of watching video (e.g., laptop, tablet, or smartphone) and doing so from many other sources (e.g. video Web sites such as YouTube or streaming video service like Direct TV Now). Most study participants knew the distinctions when asked but they said that in everyday media consumption, the services were blended together. For this reason, the ethnographic study addressed television viewing in broad terms.

The study homes consumed television in very diverse ways. To be sure, many participants in the study sat on a couch, watched TV shows coming from a cable or satellite service and did nothing else while watching. However, others watched TV

on a laptop or tablet, watched TV on a smartphone while watching another show on the TV, watched Netflix on their TV, or watched regular TV channels on the TV from a streaming video service like Sling TV.

Even the definition of “watching” TV is not as obvious as it seems. Does it include someone who is watching from another room, a person who only hears the sound because he or she is reading, a person who is in the room where the TV set is on but only to be with a spouse and does not watch the show, or a person who watches with the TV on mute? All of these patterns occurred in some study participant households.

The diversity of ways to consume television in and outside the study participant households included three patterns: device shifting, place shifting, and time shifting.

3.1 Device shifting

The standard 25- to 30-inch TV from several years ago shifted in the study homes to devices much bigger and smaller: 2-inch screens to 70+ inch screens. Study participants reported that this had a large impact on their viewing experience. Generally, people sat closer to small screens and farther away from large screens but there were many exceptions, for example people who wanted to create an immersive experience by sitting close to a large screen. In general, they were very positive about large screen TVs but they said that small screens had a place too.

Overall, study participants reported that their main TV sets were much larger than they were several years ago. Even small apartments were able to accommodate a large flat screen by putting it on a wall. There were also many more small screens in use by study households that acquired a smart phone. Many commented that an earlier generation of mobile phones had poor resolution and video ate up both their battery and data plans. They said recent smartphones have much better resolution. Further, batteries are more powerful and they reported that they are used to recharging them constantly (many had chargers for the home, car, and work) and they have much more access to WiFi (e.g., at work and many public places) which does not eat up a person’s data plan.

Device shifting has taken two other forms. First, many people said they have been watching TV programs on laptops for a while. However, some said that more recently, they have replaced a laptop with a tablet for Web access and video viewing, pointing out that tablets are a lighter and cheaper alternative. Second, device shifting has taken the form of hardware such as Apple TV, Chromecast, Roku, and game consoles that stream video content (such as Netflix or Hulu) to the TV. These supplemented cable or satellite in some of the study homes, but in others they replaced them. A few even acquired over-the-air digital antennas to bring in major broadcast networks that are not on some of the video streaming services.

There are also age-related patterns associated with device shifting. Many older people in the study homes (e.g., in their 50s and 60s) said they had adopted the new devices recently, noting that they picked this up from 20-somethings who have been

using the devices for a few years. This is sometimes called “mainstreaming” in the industry. Use of alternate electronic devices was also observed among young children. It was not uncommon to see a 4-year old in a household using an iPad to watch TV and demonstrating considerable skill in controlling the iPad. These children were more tech-savvy than children observed in homes during the early 2000s.

3.2 Place shifting

Place shifting is the result of carrying portable devices such as smartphones and tablets just about anywhere. Most study participants did place shifting. Study participants also said that there are regular TVs in many more locations than 10 or 20 years ago. TVs in bars and airports (common in the second half of the twentieth century) have been supplemented by TVs in restaurants, offices, car repair shops, and many other locations. Some age differences were observed in the places where people consume out-of-home TV. Younger people were more likely to consume out-of-home TV content in a bar, gym, pool, or park. Older people were more likely to consume it in a restaurant, airport, doctor’s waiting room, or social club. There were different degrees of engagement across these settings and within a setting. For example, some people said they sometimes were actively engaged with TV in a bar (for example, watching a sporting event), but at other times it was incidental to their main activity, such as chatting with friends.

Place shifting was also observed within study homes. Whereas in the past a TV set was in a fixed location within a living room, bedroom, or kitchen, in the study homes it could be virtually anywhere in the house through the use of a mobile device.

A common pattern observed in study homes involved a combination of device and place shifting. Study participants observed that in the past, a person (more often, a woman) who wanted to watch something different from the program on the main TV set would go to another room and watch a different program on another TV. It was reported and observed that in the study homes, it was common for two, three, or even five people to sit in the same room and watch different programs on different devices. The devices used to watch these other programs included tablets, smartphones, and laptops. By using earbuds, the sound does not interfere with other people in the room. However, in some observed cases, more than one TV sound played openly in the same room.

3.3 Time shifting

There was much time shifting in the study households, that is, watching a program that has no schedule or outside the time when it was scheduled. Time shifting has been around since the VCR was introduced, but the VCR required physical hardware to record on (videocassettes) and it was difficult to program multiple events. The DVR

made the process much easier, so much so that many study participants watched most of their TV programs time shifted. Web sites and streaming services such as Hulu and Netflix also provide content that does not have a schedule, though content can be withdrawn after a period of time. On-demand is another source of programming that is not locked into a rigid schedule. However, there are rules which vary by system about when programs become available on-demand and when they go away. Study participants had mixed reactions to on-demand, based on their cable or satellite service. Some indicated that it was terrific, with many programs available, often right after it was scheduled. Others said there was little content and it was often very old. In some study households, on-demand reduced the use of DVRs – there was less need to DVR a program since it would be available on-demand.

Time shifting through DVR or on-demand led to more marathon viewing in many of the study households, when a person watches a few or several episodes of a series at one time (often on a weekend). In the study households, there were a few reasons for marathon viewing of TV programs: to catch up on missed shows; to catch up on a series before the new season begins; when you are sick and have nothing to do; feeling lazy on a weekend and just zoning out on TV; and taking a break from social media to just watch TV. Marathon viewing was not just with DVR recorded programs. On-demand and online streaming service like Netflix were also used for marathon viewing. Some study households also reported a variant of marathon viewing: spacing out when they watched a series. For example, if they discovered a series they really liked which had several seasons of programming, they would watch one or two episodes a night to space the viewing over a few or several weeks.

A negative aspect of time shifting, for some study participants, is that it exposed them to more “spoilers” (e.g., learning the outcome of a mystery program or a sporting event before viewing it). However, attitudes about spoilers varied considerably. Some went to great lengths to avoid spoilers, telling friends to not discuss a show with them or avoiding all social media and news to not learn the outcome of a sporting event. Some didn’t care if they learned the outcome of an episode or sporting event. Others had personal preferences, for example avoiding spoilers only for major sporting events.

3.4 Other findings

Four additional findings may be noted from this ethnographic study of television audience viewing patterns. The first is the growing importance of social media among study participants in influencing what people watch and shaping their attitudes about shows and stars. In one sense, social media is like “watercooler TV” for earlier generations. In the old days, people would gather around the watercooler in an office and a frequent topic of conversation was television programs. “TV influentials” used this as an opportunity to try to get people to watch (or not watch) a show and share gossip about stars. Study participants said that social media served a similar func-

tion, but the scale and scope are vastly different. The TV influential can now reach far more people through Facebook, Twitter, TV channel sites, blogs, and texting. Most study participants were aware of TV influentials in their lives, though they used different words for them. Some of the study participants said they were a TV influential; others could name friends who influenced them. Communication about shows on social media was particularly high among teenage girls.

Social media was also prominent in study households as it relates to another pattern: simultaneous viewing of TV content and doing something else. For older study participants, much of this simultaneous activity was not TV related, e.g., folding laundry, talking on the phone, and eating or buying things online. But some did go to a channel's Web site or send email about a show while watching a program. TV-related social media was more common among younger people, e.g. teenagers and millennials. Also, much of the simultaneous activity was directly related to TV, e.g., watching an extra segment from the show they were watching or voting someone off a talent contest, and some was social media directly about the show they were watching, e.g., tweeting to the show or texting friends about the show.

The explosion of video content on cable or satellite systems and online created a problem for study participants: how to find it. With hundreds of channels on cable systems and thousands of programs on services like Netflix, study participants said that print guides are all but useless. Electronic Program Guides (EPGs) with search capability can help but they too fall short. Some study participants said they rely on social media and TV bloggers for recommendations. The problem for study participants is compounded because so few channel-surf anymore, so they are not exposed to as many channels as they would see in the past. Most study participants had viewing routines, e.g., DVR first, then on-demand, then EPG, but the routines varied. A backup for many was Google but it was only good in helping to find a show they already knew about. They were left with the feeling that they were missing many good shows.

There has been much discussion about cord cutters (people who give up cable, satellite, or a telco video service), and some of the study participants were cord cutters. These were mostly younger people, though a few older people said they were thinking about it. However, it was not the case that they were giving up television; they were simply getting television in new ways. For a live event such as a football game, they might go to a bar or to a friend's house. More generally, they were *assembling* a customized television service from many sources, for example, over-the-air TV, Netflix, Sling TV and YouTube. There were many different combinations.

4 Conclusion

Audience ethnography is more common than a few decades ago. It is widely, if not universally accepted as one tool in our research toolkit. What's more, the war seems to be over (or, at least, a truce declared) between qualitative and quantitative researchers.

In our view, ethnography should be considered a complement to quantitative research methods. They each have strengths and weaknesses; the weaknesses in each can be mitigated by the other. To use an analogy, surveys and large data collections such as audience ratings measure behavior from 30,000 feet. They can study broad patterns of behavior and tell if these are representative of the population as a whole, but it is hard from 30,000 feet to see expressions on people's faces or small details of behavior that can reveal important attitudes and values. Ethnography can study behavior from the ground with greater depth but it is a qualitative assessment of relatively small groups and cannot tell us if the findings are representative of the general population.

Ethnography can provide valuable insights for many groups: media students and scholars, content producers, distributors of content, and advertisers. Broadly speaking, it can provide three types of learning: fresh insights about behavior patterns that previously were unknown; more in-depth understanding about patterns of behavior that have already been identified in other research; and documentation through photos and videos to provide emotive as well as an analytical understanding of behavior patterns. Ethnography has strong face validity or believability about the people studied, even if generalizability is limited.

In addition, ethnography can provide insights about *engagement* that is so prized in audience research. It would not be suitable as a quantitative measure of engagement, something advertisers and ratings agencies require, but for content producers or distributors who do not have to monetize the engagement measure, it can aid in production and promotion.

Finally, the question must be asked: do ethnographic researchers influence what study participants say or do by their presence in people's homes? At both a practical and theoretical level, the answer is yes. All research methods face this challenge, in different ways. For example, surveys face the challenge of politically or socially-correct responses in, say, a survey about church-going behavior. Just as survey researchers have techniques to mitigate or identify incorrect responses, so ethnographic researchers have techniques to minimize the influence of their presence in a home. Many of these were discussed in section 2 of this chapter, "Ethnography."

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Part IV: **Contexts**

Stuart Marshall Bender

16 Media Violence

Abstract: This chapter outlines some of the key positions adopted by scholarly approaches to mediated violence and shows how contingent factors in the new media environment collapse the producer-consumer relationship in terms of screen recordings of real life violence, which has important implications for the effect and affect of such material. The chapter contrasts psychology based media-effects research with the emphasis on textual analysis taken by communication studies. While some findings of the media-effects research appears to suggest that mediated forms of violence contribute to such behavior in the real world, communications scholars take a nuanced approach and show that there are a substantial range of aesthetic and reception issues involved. This chapter considers traditional cinema violence, “leaked” violent videos on websites, and also the emergence of so-called “performance crime” such as murder videos posted to Facebook and other social media platforms. Given the significant ways in which science and cultural-communications studies have been able to complement each other in this area – as much as they have claimed to be in friction – it is perhaps possible for new modes of multidisciplinary research to explore both the impact of new mediated violence.

Keywords: Violence, performance crime, risk behavior, media psychology, videogames, social media, murder videos

Violence has long been a key fascination of screen media. In turn, these mediated images of violence – both fictional and actual – have been studied extensively by a variety of scholarly approaches. This chapter will outline some of the key positions adopted and show how contingent factors in the new media environment collapse the producer-consumer relationship in terms of screen recordings of real life violence, which has important implications for the effect and affect of such material. One of the most significant areas in the literature on media violence is concerned with the potential effects on viewers, often centered on the impact of violent representations on children’s development and apparent aggression. For instance, when Eric Harris and Dylan Klebold conducted a massacre at Columbine High School in April 1999 it was reported that they had played the violent videogame *Doom* (see BBC News 2001; Simpson & Blevins 2001). When James Holmes killed 12 people and injured 70 others in his attack at the midnight screening of Christopher Nolan’s film *The Dark Knight Rises* at the Aurora Cinema in 2012, David Denby (2012) wrote in *The New Yorker*:

We can’t avoid the awkward, misery-inducing question: Can any of the blame be placed upon the movies themselves – or on this movie in particular? Is movie violence a factor in the still-routine mayhem in American cities?”

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Cinema scholar Stephen Prince (2009: 279) argues, “Fears that viewing violence on screen may lead some viewers to behave violently in real life have motivated the long history of censoring screen violence.”

First, this chapter will review some of the key research into the cultural concern about mediated forms of violence. For decades, media effects research – primarily driven by a range of psychology fields – has been interested in locating whether or not screen violence has an impact on audiences and, if so, attempting to experimentally stimulate this effect for the purposes of measurement and to understand the processes by which such an influence may work. Yet, as Christopher J. Ferguson and Eugene Beresin (2017: 73) argue, despite there being inconclusive and mixed results, “It has been common for scholars who argue for the negative impact of media violence to claim a consensus exists.” The apparent consensus view is expressed in the following terms by Craig Anderson and L. Rowell Huesmann (2003: 309) in a well-cited article which claims that the media effects research is unassailable:

Evidence of a causal connection is now overwhelming [For example] In a study initiated in 1960 on 856 youths in New York State, Eron et al. (1972) found that boys’ early childhood viewing of violence on TV was positively related to their aggressive and antisocial behavior 10 years later.¹

While the results of the original study by Eron et al. (1972) are compelling on their own terms, the methodology – which is entirely absent in Anderson and Huesmann’s quick summary of the results – is worth considering in some detail. Each subject’s preference for violent content was determined by the following process. Researchers first identified each participant’s three favorite TV programs, and then employed graduate students to code each program as “0” (nonviolent) or “2” (violent). A coding of “1” was used when the two assessors disagreed on whether the content of a program was deemed violent or nonviolent. This is a highly problematic stance from which to make generalizable claims for the effects of violent media. It is important also that studies in media poetics – which is the analysis of stylistic, aesthetic, and formal features of an artwork that are intended to produce an effect on the audience (Bordwell 2008) – have demonstrated that there are an enormous range of techniques of presenting violence (Prince 2003). Even something as simple as a gunshot death can be depicted in a wide variety of ways, via different forms of editing, different types of bodily performance, and different historically-determined filmmaking and post-production technologies have a significant influence on the stylistic presentation of the violence (Bender 2013; Bender & Palmer 2017).

¹ According to various databases, the Huesmann et al. (2003) article has been cited 429 times (according to Scopus), 335 times (according to Web of Science), and 1044 times (according to Google Scholar). Other, more recent, papers on the same topic do not have anywhere near this number of citations and for this reason I am focusing such attention on the details of the evidence, though I suspect similar claims could be made of the rhetorical strategies in other scientific papers on the subject.

Media studies' emphasis on textual analysis – which is significantly less alarmist than the psychology literature, and understandably more attuned to the nuance of textual detail, is quite suspicious of blanket claims from the scientific studies of media effects. David Gauntlett, for instance, argues that much of the science-based media-effects research is framed in behaviorist terms, and that it “takes a correspondingly inappropriate ‘scientific’ view of what is basically art and/or entertainment material, intended for consumption by conscious audiences rather than content-counting analysts” (Gauntlett 2005: 14). Ferguson and Beresin (2017: 70) refer to such a scientific attitude as the “hypodermic needle” model which contends that “behaviors are injected into viewers by the media, who passively model viewed behaviors in a predictable and unidirectional way.” Such a transmission model of communication has been routinely rejected by humanities scholars in relation to virtually all types of text. For instance, although real-world killers may occasionally dress like a movie character, such as James Holmes's choice to wear a tactical vest during the Aurora Theater shooting (Bushman et al. 2013), or the iconic surveillance camera image of Dylan Klebold evoking the pose of Sylvester Stallone from the movie poster for *Cobra* (Dir., George P. Cosmatos 1986) (see Bender & Broderick 2016), this does not mean that everybody who watches action films undertakes a campus rampage attack, or that all campus shooters adopt movie character costumes and poses.

Certainly, there are also some examples of real-life killings that fall temptingly into a description of copycat violence. For instance, one of the Columbine school shooters, Eric Harris, reportedly was a fan of the film *Natural Born Killers* (Dir., Olive Stone 1994) and used the acronym NBK to refer to the attack on the school (see Langman 2016). However, the psychopathology of Harris is significantly more complex than simply the fact that he viewed the film – which does not contain any scenes of school shootings – or played the videogame *Doom* (Langman 2009). In addition, research has found that many school shooters have no interest in violent media of any type (United States Secret Service and United States Department of Education 2002), and that such rampage shooters actually have less interest in violent video games than the average male adolescent (Ferguson 2008; see also Australian Government Attorney-General's Department 2010).

Nonetheless, the scientific research cannot simply be put aside. And indeed a close reading of the literature, in combination with the cultural studies-based views of mediated violence, suggests that there is nuanced overlap between the two positions. This chapter will attempt to untangle some of this, as well as propose research questions for the future of such media effects work in light of the present day new media and Web 2.0 environment. There are already some meta-analysis studies that take a skeptical view of the scientific research while simultaneously identifying the importance of the studies – particularly in their identification that *something* is going on so far as potential effects of media violence on viewers – while also identifying overlaps and missed opportunities for mutual engagement between science and humanities research in this area (Felson 1996; Kontour 2009). As such, this chapter will review

only some of the relevant literature in this area, in order to point towards the questions that could be asked about new mediated violence.

1 Untangling statistical and social significance of media violence effects

Many researchers maintain that movie, television, and videogame violence has an influencing effect on audiences and leads to greater aggression and antisocial behavior. Often these results are presented in terms of their statistical significance (see, for example, Huesmann et al. 2003). However, statistical significance does not necessarily translate to cultural or social significance (see Ziliak & McCloskey 2008), or at least not to the extent that some claims have made of the data. David Matsumoto and Seung Hee Yoo (2007: 341) argue that “Statistical significance does not mean ‘practical’ significance in a realistic or pragmatic sense” and incorrect or overblown interpretations can be attached to such data, particularly informed by “cultural myths that are easy to perpetuate.”² Of course, the psychological effects of violent media represent a significant cultural myth – by which I mean a cultural folk narrative that is used as a heuristic to understand events in the world. Yet at the same time, the distrust of statistics by some media studies’ approaches should also take into account that slippery definitions of violence, aggression, and textual properties do not mean that the statistically significant results are irrelevant.

To be fair, the psychological studies do frequently frame the results to emphasize that media effects are not the only, or even the most significant, cause of actual aggression and violence. Thus, a milder expression of the research is found in Swing and Anderson’s (2014: 197) description that there is a “causal *risk factor* for aggressive behavior” associated with media violence and real world aggression (emphasis mine). This view groups media violence into a number of other risk factors which include “neighborhood violence [and] delinquent peers” which “probabilistically increase the likelihood that aggressive behavior will occur” (197). It makes practical, theoretical, and rhetorical sense for an article on *media violence* to focus the bulk of its analysis on that topic, rather than on other proximate factors. I believe it is important to consider this kind of research against a background of cultural and political preoccupation with statistics. As Ian Hacking suggests in *The Taming of Chance*, and which he later links to Ulrich Beck’s (1992) concept of the “risk society,” the statistics

² The authors are referring here to a hypothetical example of a study which finds a “statistically significant difference [...] between Americans and Japanese on emotional expressivity” and that it would be easy to mistakenly conclude from such data that “all Americans are more expressive than all Japanese” (Matsumoto & Yoo 2007: 341).

and probabilities that are endlessly calculated and publicized of our daily lives have led to a feeling that “There is nothing to fear (it may seem) but the probabilities themselves” (Hacking 1990: 4–5). In addition, Hacking points out that there is an “obsession with the chances of danger, and with treatments for changing the odds” (5) and it is precisely this drive toward meaningful statistics that is evident in much of the psychological research on mediated violence. For Kathleen Woodward (1999: 180), such a faith in statistics “engender insecurity in the form of low-grade intensities that [...] permit us to go about our everyday lives but in a state of statistical stress.”

According to Woodward (1999: 186), the varying types of statistical stress and panic that permeates our culture are inevitable given that there is a necessity to “find ways to creatively use statistical language to effect change” since “much public policy depends upon mobilizing statistical panic.” For instance, consider the emphasis on things such as gun control as well as movie and videogame violence, which routinely appear after incidents of mass violence. To tangent briefly on a culturally and historically relevant moment of real world violence, it is common in the wake of terror attacks for the public to be reminded that there is some percentage chance of being killed in a terror attack. For instance, consider the following list of online news headlines: “What’s the real risk from terror?” (Spiegelhalter 2010); “What’s many times more deadly than terrorism? Britain’s roads” (Toynbee 2015); “Trump fears terrorists, but more Americans are shot dead by toddlers” (Younge 2017). But whatever the small percentage may be, it is still a fearful statistic for many people. As Woodward (1999: 181) notes, when a website ran a specific “Top news” story in 1997 stating “Homicide rate down in 1997” this merely reminds us that “there is no doubt that fewer murders [nonetheless] remains a forecast of violent death.”

Large-scale naturalistic experiments seem to produce opposite results to the laboratory studies that claim a positive relationship between media violence and viewer/societal aggression. For example, the increase in television content – and therefore everyday exposure to media violence – in the 1950s and the increased rentals of violent DVDs in the 1980s are considered naturalistic experiments in that they occurred without being set up as laboratory studies and provide example of what happens in less artificial settings. According to Gauntlett (2005), these studies indicated that there was either a nonexistent rise in violent crime, or at most a trend toward less crime when consumption of violent material increases. While there are inevitably limitations on the results of such studies due to the variability of crime reporting and other factors, Gauntlett notes that “if the availability of more graphic and violent videos had the effect on behaviour which critics claimed, we would certainly expect to see some increase in these figures, which is not there” (32).

In addition, more recent naturalistic studies of violent film attendance and overall crime statistics indicated that there were on average 1,000 fewer violent assaults during weekends where violent films were first released in cinemas compared to weekends where a non-violent film was first released (Dahl & Dellavigna 2009). The suggestions of this study are twofold. First, violent films tend to attract audiences of

people who are predisposed to violence and aggression, and so city-wide violence is lowered by quarantining these people in a movie theater or in their own homes with a violent movie. Second, most theaters do not serve alcohol and so the aggression associated with alcohol consumption is also limited. Similar results were found by a more recent study by Markey, French, and Markey (2015), however these authors note that:

There is ample evidence that violent media can increase aggressive cognitions, aggressive affect, and some minor aggressive behaviors. Although watching a violent film does not seem to be related to shifts in homicide or aggravated assault rates, such exposure may affect other types of less severe aggressive behaviors such as bullying, spreading gossip, minor fights at school, pushing and shoving, or hurling insults. (168– 169)

Christopher Ferguson (2015: 1) concludes that “there are probably few cultural debates that have been waged for so long as the issue of whether media violence contributes meaningfully to societal violence.” He cites the disagreement between the American Psychological Association, who in 2005 wrote a statement “unequivocally linking media violence to societal aggression,” and the group of over 200 “media scholars, criminologists, and psychologists [who in 2013] wrote an open letter to the APA asking them to [...] refrain from making such casual attributions” (1).

Certainly the results of such studies lend themselves easily to provocative newspaper headlines such as “Does Media Violence Lead to the Real Thing?” (Pozios, Kambam & Bender 2013). However, these sorts of actual violence and/or aggression measured by the studies do not represent the kinds of things that I believe the general public is truly concerned about when they worry about the potential long-term effects of violent media. This is of course related to one of the challenges that cultural studies analysis raises against many of the traditional psychological experiments that measure short-term effects of children’s exposure to violent media. Writing of laboratory studies of children watching a stimulus film produced by researchers of a man striking a large inflatable doll, and then themselves also hitting the same inflatable toy, Gauntlett (2005: 24) argues that these are not the sorts of violence that generally raise concern, and “actions directed at toy-like inanimate objects can hardly be equated with social behaviour.”

2 Short term measurements and aesthetic theory

One concern among some scholars is the tendency for much of the media effects research to use ecologically invalid test samples. For instance, a recent meta-study of “media selection” in psychological research has demonstrated that media psychologists rarely give the same attention (or “investment”) to the media chosen for any study than they do to other methodological concerns (Reeves, Yeykelis & Cummings 2016). It seems possible to produce positive results – i.e., correlations between

violent media viewing and reports or symptoms of aggression – in laboratory settings but, as David Gauntlett argues (2005), these are short term effects. The artificiality of the laboratory experiments calls into question the validity of studies that make claims to the influential capacity of violent media. For example, as Christopher Ferguson (2015: 2) argues, “many such studies provide exposure to only brief clips of media, rather than full narrative experiences, in which violence exposure is outside of a narrative context.” This is significant. As Kyle Kontour (2009: 10) argues, much of the literature on media effects of violence – specifically in videogames research but with strong overlap and inheritance from prior types of media – relies upon the fields of “psychology, pediatrics, and general science” and thus ignores many of the contributions of media and cultural studies perspectives. Yet, for Kontour, “This is not a mere matter of turf, of course – there is a troublesome lack of sharing (or even recognizing) the different theoretical and conceptual mechanisms in each body of research” (10).

Accordingly, aesthetic media theory offers useful understandings of violent representations. For instance, consider the defamiliarizing effect that has been identified in some combat shooter videogames. The popular first-person shooter war game *Call of Duty* features a sequence in which the player controls the targeting sensor of an aircraft and sees only the black and white, infrared vision of the sensor looking down upon the very small enemy characters below. Quite different from the rest of the game, the distance (physically, optically, and haptically) created by this particular sequence stands in stark contrast to the standard first-person shooter experience. For some players, the game has created an unsettling, unnerving effect; at once striking them as highly mimetic to what they consider to be “real combat” and in juxtaposition to the supposedly cartoonish action in the rest of the game (Bender 2017a). A similar effect has been observed in *Spec Ops: The Line*, in which the player operates remote control artillery and is subsequently forced – in a sequence notoriously absent from most videogames – to walk through the resulting carnage and view the corpses (Keogh 2013). In an even more defamiliarizing experience, the opening campaign of popular shooter *Battlefield 1* short circuits the typical play-replay logic of videogames and forces the player to be killed over and over again in order to proceed (as a new character) (Bender 2017b).

While these may seem to be the kinds of aesthetic details and characteristics often ignored by the scientific experiments on media violence, some studies do explore the nuance of violent representational strategies to some degree. For instance, the longitudinal study cited in detail above does conclude with the following recommendation: “a violent act by someone like Dirty Harry that results in a criminal being eliminated and brings glory to Harry is of more concern than a bloodier murder by a despicable criminal who is brought to justice” (Huesmann et al. 2003: 218). Indeed, such results promote a highly conservative view of media violence that is closely aligned with the intentions of the original Production Code in Hollywood, which took into account precisely these ideas (among others) between 1930–1968. In addition, these ideas

are clearly matters of debate within the Censorship and Ratings Association (CARA), as evidenced by the handwritten notes by an anonymous CARA Committee member from the late 1960s that can be found on a document in the Margaret Herrick Library archive:

The acceptability, in my mind, in reverse order [of screen violence] is as follows:

- 1) Where the aggressor visually enjoys his violence, we should carry a big stick and be very stingy.
- 2) Where the aggressor is visually indifferent we should be a little more lenient. This is a gray area and difficult to define. We have had this in quite a few westerns and gangster pictures.
- 3) [Hate, which is a] highly emotional act of unpremeditated violence.
- 4) Where the aggressor dislikes his violence visually, we should be more permissive. His dislike can be very subtly shown by even slight facial expressions or body movements.
- 5) Where the aggressor loathes his violence, we should be most permissive. This is rather rare but it has occurred several times. You know what I mean – closing your eyes and pulling the trigger.³

As Prince (2003) has demonstrated, despite the popular myth that the Production Code was originally in place to ban violent acts, the Code did no such thing. Rather, acts of violence were regarded as things for the industry to “be careful” when presenting, and the problematic incidents tended to be “entangled with categories of behavior that were considered morally inappropriate for film to portray: theft, outlawry, disrespect for law and order” (21). Indeed, some of the concerns of the original Production Code, such as that violent movies could teach people how to behave like criminals, appear to be borne out in the research. Consider, for instance, some of the conclusions of a large-scale study of violent television programming in the late 1990s:

The best answer is sometimes it does, but it is nearly impossible to substantiate a link between specific acts of media violence and actual acts of violence [...] We know that a criminal can learn a technique or a method of committing violence from watching, but the propensity to violence is usually already there (Cole 2013).

This particular study involved thoroughly coding the violence in all prime-time media broadcasts from three of the largest United States broadcasters for a three-year period, and then to evaluate the contexts in which these violent acts occurred. Most relevant is the study’s summary that “The most problematic violence was that which lacked appropriate context for the violence, and where the violence was overly gratuitous – far more violence than needed to tell the story – lacked consequences and went unpunished (Cole 2013). It is also clearly in agreement with the psychological theories

³ See the handwritten notes on the back of document “Films Approved From January 1, 1967 Thru Oct. 31,” in Association of Motion Picture and Television Producers (AMPTP) records, violence, f. 652, Margaret Herrick Library, Academy of Motion Picture Arts and Sciences, Los Angeles, California. Accessed October 17, 2015.

of media violence effects that draw upon social learning theory to explain the way child viewers develop aggressive cognitive scripts for future behavior (Prince 2009; see also Bandura 1973; McArthur et al. 2000).

According to Dirk Eitzen (2014: 167), the United States Supreme Court rejected a statute proposed in 2011 to prevent children from buying violent video games on the grounds that even though “they believe[d] there are significant risks associated with violent video games, for children and for society [...] the court judged that there are potential benefits to video games, even really violent ones, which outweigh the risks.” The benefits considered by the court appear to primarily be the development of children’s problem solving abilities, as well as maintaining the nation’s first amendment rights of expression (see Supreme Court of the United States 2010). However, cognitivist media theory might argue that some violent films provide positive scripts for preparing for potential violence in the real-world by activating the viewer’s imaginative capacity to run “offline simulations” of dangerous scenarios (see Bacon 2009; Grodal 2009). In addition, Eitzen (2014: 168) argues directly against the GAM, suggesting that much research appears to support the view that real violence occurs as a result of lack of inhibition, regardless of priming, media influence, or other factors such as emotions of anger. From this perspective it is possible to suggest that mediated violence – such as the kind found on cinema screens, television, or in videogames – can be viewed as part of what Norbert Elias (1994) referred to as the civilizing process. Thus, one effect of viewing violent media is to learn the consequences of violence. As J. David Slocum (2005) argues, post-World War II and particularly in the 1960s, movies progressively dealt with fundamental issues and problems to do with human capacity for violence:

Films from *Crossfire* (Edward Dmytryk, 1947) to *The Searchers* (John Ford, 1956) to *In Cold Blood* (Richard Brooks, 1967) addressed the relationship to, and possible reconciliation of, acts of brutality with political ideals and social values of freedom, stability, and peace. Other films, such as *Kiss Me Deadly* (Robert Aldrich, 1955), *Rebel without a Cause* (Nicholas Ray, 1955), and *Point Blank* (John Boorman, 1967), questioned whether violence and violation were aberrations to be policed and repressed or somehow constitutive of modern human behavior and social relations. (57)

Thus, certain kinds of media violence – again, from Slocum’s list of exemplars, the kind of violence and aggression that is not glorified and which represents artistic explorations of what could be glibly called “the human condition” – may have beneficial influence on society. Indeed, some psychological research has explored the process of restraint: “though there may be many root causes that give rise to violent impulses, intrapsychic restraints keep aggression from engulfing society” (DeWall et al. 2007: 62–63). Violent types of media, particularly in their realistic (but not gratuitous) forms, can therefore be reconsidered from the point of view of Elias, social restraints, and artistic defamiliarization as productive forms of the civilizing process.

3 The return of the mean-world syndrome

The psychological literature does appear to support a “multiprocess model in which *violence viewing and aggression affect each other* and, in turn, *are stimulated by related variables*” (Huesmann, Lagerspetz & Eron 1984: 746, emphasis mine). In other words, viewing TV violence itself is not the problem, but is merely part of a network of multiple causes for aggression which include other environmental factors:

The child most likely to be aggressive would be one who (a) watches violent programs most of the time they are on, (b) believes these shows portray life just like it is, (c) identifies strongly with the aggressive characters in the shows, (d) frequently has aggressive fantasies, and (e) if a girl, prefers boys' activities. In addition, such a child is likely to (a) have a more aggressive mother, (b) have parents with lower education and social status, (c) be performing poorly in school, and (d) be unpopular with his or her peers. (773)

This is a significant list of heterogeneous factors, but clearly it is only items (a) and (b) that can be related directly to the textual characteristics of the violence, and (c) is indirectly related to it. On this basis, it seems reasonable to suggest the issue is one of fairly marginal cases, though they are significant and worrisome nonetheless. As Kontour (2009: 9) argues, although some studies “seem to have successfully demonstrated that violent games serve as a priming effect for aggressive behavior, there is little indication that this is the same between ‘normal’ versus clinically defined anti-social personalities – which is precisely the sort of determination that is needed in order to make causal links between violent media and, say, school shootings, a subject that gets frequent mention among studies that find positive correlations between violent games and aggression.” For instance, consider the follow-up to the study above, in which the researchers examined the longitudinal effects of TV violence by returning to the cohort studied in adulthood (Huesmann et al. 2003: 207). Their measure of “*severe physical aggression* [...] included three items about how many times in the last year the participant had “choked, punched, or beaten another adult,” had “slapped or kicked another adult,” or had “threatened or actually cut someone with a knife or threatened or shot at someone with a gun” (emphasis in original). The mean results in the study were 0.57 for women and 1.15 for the men. What is interesting about this measurement is that the authors have not operationalized these items – it is not a scale from 0–4 like many of the other measures used where 0 is never and 4 is often.⁴ The severe physical aggression is presented as a pure numerical count. Therefore, when the tabulated data lists this information as the number “of acts in past year; from 0 to ≥ 27” this presumably means that at least one person – but no more than a few people – in the recruitment group self-reported 27 acts of severe physical aggression within

⁴ I thank my colleague Justin Rashid for his help interpreting some of the statistical methodologies employed here.

the last year (Huesmann et al. 2003). This is quite an alarming amount of slapping, choking, kicking, and potentially firing guns at people. But again, given the very low mean results it is still clearly a marginal number of test subjects that scored so highly.

In general, the original studies (both scientific and mass communications based) conceived of a kind of top-down model of media – where a film, television program, or more recently a videogame depicts created, fictional scenes of violence. However, in the contemporary milieu there are other forms and accessible modes of mediated violence. It has become commonplace to praise the capacity of networked and new mediated technologies to assist in regime change and the democratization of communities that have previously not had access to traditional media opportunities. However, recent world events also point to the capacities for such technology to promote greater violence. For instance, without the gatekeeping of traditional news media, YouTube and other social media platforms functioned as enablers of the Islamic State to freely distribute their beheading and other violent propaganda videos to the world (see Bender & Rashid 2016). In addition, there are increasingly examples of violent criminal acts that are undertaken for the purpose of capturing them on video in order to attain notoriety online. Raymond Surette (2015) refers to these acts as “performance-crimes,” which stand in contrast to traditional criminal activities:

Whereas crime traditionally was comprised of low visibility events in which the actors strove to hide their identities, in the new media world surreptitious crime compete with a growing number of high-visibility crimes. (195)

Consider, for instance, the brutal crime by Steve Stevens in April 2017. A video posted to his Facebook, which was recorded using his cell phone and later uploaded, shows him park his car at the side of a road, get out, approach an elderly man on the sidewalk and shoots him point blank in the head. Stevens’ voice is heard on the video, moments before raising the pistol, telling Godwin to “Say Joy Lane [...] she’s the reason this is about to happen to you.” Joy Lane is Stevens’ ex-girlfriend, and in another video, he claims he has snapped because of the breakup. As he pans the camera along the body on the sidewalk, his voice is heard again saying Godwin is “dead because of you, Joy.” The murder is of course shocking and abhorrent, yet the recording and distribution of the video is *as central* to the act as the killing itself. Majid Yar (2012: 252) locates in crimes like this the “will-to-representation,” which are “engineered or instigated with the specific and express purpose of recording it and disseminating that record via electronic networks of communication. While I have discussed the affective and aesthetic impact of these videos elsewhere (Bender 2017a), here I want to address a different aspect: the potential desensitizing effects of such material against the background of the scientific and cultural studies views of mediated violence discussed above.

There has long been an audience fascination for recordings of actual death. Kerekes and Slater (2016) consider, for instance, the Edison film *Electrocuting an Elephant* (Dir., Edwin S. Porter & James Blair Smith 1903) and the appeal of 1970s

fake “snuff” films which make every effort to appear real. With websites like Liveleak.com, contemporary audiences are afforded many more opportunities to obtain legitimate videos of death recorded by amateurs. And while the audience for these videos cannot be regarded as mainstream, their existence does pose a question for the potential desensitizing effect of violent representations. These sites do also tend to feature user comments expressing disgust at some of the extreme material. Thus, even these audiences who actively seek out the material are not necessarily desensitized to depictions of horrific violence.

Therefore, it is worth considering the view that rather than having a desensitizing effect, if anything this kind of material is hypersensitizing and can result in vicarious trauma (Kaplan 2008, 2013). Consider the following psychological experiment in mediated violence from the 1970s (Drabman & Thomas 1974). The researchers staged a deception study in which children were invited to play games in a school-room. On the way to the room, the researcher would just happen to show the children their new trailer, which they were told was sometimes being used by one of the researcher’s friends to babysit kindergarten children. Inside the trailer were some toys as well as a camera that was set on a tripod. The children were informed that the vision from the camera could be observed on a television set remotely. The children were then taken to another room where one cohort was shown a short Western film that featured shootouts and fist-fights, and the second cohort was not shown a film. Before the child could commence the games they had ostensibly been invited to play, the researcher announced that they would have to take a phone call and leave them for just a moment. The researcher would announce:

I have somewhat of a problem. You see, I promised my friend who will be working with younger children in the trailer today that I would watch the children for him while he’s gone. See, I can turn on this T.V. set and watch what’s happening in the trailer. [The experimenter then turned on the monitor that showed the still vacant trailer.] Oh good! They haven’t gotten there yet. There’s no one there now. Well, I might get back before they arrive, but if I don’t, could you watch the children for me? Thanks a lot. Just watch the T.V. and if the children get there before I come back, then you keep an eye on them. I imagine they’ll be O.K. but sometimes little kids can get into trouble, and that’s why an older person should be watching them. If anything does happen, come get me. I’ll be in the principal’s office. (419)

After the researcher left the room, a pre-recorded video was played on the screen to make the children believe it was occurring live: on the screen they would see two children enter the trailer and begin playing with the toys, eventually becoming aggressive and then fighting and knocking the camera over. The researchers were interested in how long it would take before the children decided to seek out an authority figure to assist in stopping the aggressive behavior. Not all children reported the incident to the authority figure: there were 4 children in the group that watched the violent film who did not respond at all to the two actors fighting over toys, as well as 3 non-responders in the group that were not exposed to the violent film initially. Of the 37 children

that did seek out help, “58% of the subjects in the no-film condition who notified the experimenter did so before the children began to fight physically, only 17% of the subjects in the film group responded to this type of aggression” (420). Thus, the project was interested in the potential for the violence to habituate viewers.

The authors do not claim that the study yields conclusive results, however they suppose three possible explanations. First, they suggest that it is possible that

witnessing aggressive behavior on television and in movies may serve to make the viewer more likely to consider conflict and fighting as normative behaviors. Thus, when real-life aggression is witnessed, it is not considered to be surprising or unusual and therefore does not seem to warrant action on the part of the observer. (420–421)

Second, the authors suggest that the real-life aggression is not as spectacular as that often viewed in the movies, so therefore it “may seem trivial in comparison” (421). Finally, they also suggest that the exposure to the violent Western film may have reduced their “emotional responsivity to subsequent scenes of violence [...] thereby making it less likely that individuals will react quickly” (421; see also Goranson 1970). For my purposes I would like to consider the first two suggestions, in reverse order. The second suggestion by the authors is in line with recent findings that unrealistic media violence is arguably more dangerous than more mimetic forms (Cole 2013). And the first argument fits also with the concept of the “mean world,” where audiences develop extremely negative and fearful perceptions of the world based upon their (over)exposure to violence on screen (Gerbner et al. 2002: 52). In framing this finding, George Gerbner argued:

The contribution of television to the committing of violence is relatively minor, maybe 5%. Whereas the contribution of television to the perception of violence is much higher. People are almost paralyzed by fear (see Kolbert 1994, cited in Center for the Digital Future 1997: 14).

This also points toward an avenue of important research in contemporary performance-crimes involving the will-to-representation and mediated violence. For instance, early in 2016 an 18-year-old girl live-streamed the rape of her 17-year-old friend, broadcasting it live using the Periscope application on her cell-phone. According to her lawyer, Sam Shamansky, Lonina frequently used the application to live-stream aspects of her daily life (McPhate 2016). One of the victim’s friends saw the video and reported it to the police. The legal aspects of this scenario are highly complex and beyond the scope of this chapter, including the fact that Lonina’s recording technically constitutes child pornography as the victim-subject was under 18. According to the prosecutor, Ron O’Brien:

When she was interviewed by the police, she said originally she thought that by live-streaming or taping it, it would prevent the assailant from doing what he actually was doing before her very eyes, but that she got caught up in it by the number of likes that her live stream was getting, so she continued to do it. (Kazdin 2016)

This unsettling example points toward the potential for desensitization: after all, many viewers appeared to enjoy the video and encouraged Lonina to continue filming. One of the dangers of these videos is that audiences may accidentally or mistakenly happen upon these performance-crime videos. Facebook received criticism when the point-of-view murder video of two reporters in Virginia played on users' Facebook feeds without them clicking play because of the platform's autoplay function in use at the time (McGlaun 2013).

It is impossible to determine whether those who enthusiastically viewed the live-stream of the rape had become desensitized to general depictions of violence, or if they are representative of the numbers predisposed to violence and aggression, or if they are those more likely to voyeuristically watch the live-streamed rape out of enjoyment, or any of the other variables evident in the traditional psychological literature. But these signify important questions that deserve serious inquiry. Theoretically there is also the potential for viewers to be hypersensitized and traumatized by this material. We simply do not know how many viewers saw Lonina's video and switched off, or the potentially traumatizing after-effects for them. There are, however, examples of military drone pilots who experience vicarious trauma as a result of watching death via their hovering aircraft and being unable to help the victims, as well as developing signs of post-traumatic stress disorder due to their own involvement in other military killings (Bender 2017a). Whether desensitized, or hypersensitized, the audience of Lonina's video may be understood from the perspective of the mean world syndrome.

4 Conclusion

In general, the scientific research provides inconclusive results in its answer to the question of whether mediated violence impacts on human aggression and actual violence. Many studies – including both laboratory work and natural experiments – have been able to produce a positive relationship between these two, yet other studies have found the direct opposite (Ferguson 2008). In addition, humanities research in the fields of communication and cultural studies has strongly criticized the methodologies and the theoretical justifications for the findings of psychological research. This chapter has intended to occupy a kind of middle ground between the two positions, in effect to *mediate* between the two perspectives. Thus, while it is not possible to say that mediated violence has no harmful effects on society, the evidence does not point toward a one-to-one relationship between images and depictions of violence and real-world aggression and violent behavior.

In the new media environment, more research is needed to understand the involvement of mediated-technologies in the production of violence. Particularly as *real* violence is often remarkably non-spectacular (Bender 2014) compared to the

“hyperbolic” style of its presentation in the movies (Prince 2009: 287). Consider the first-person gunshot murders presented in the YouTube uploads by criminals such as Steve Stevens and Vester Flanagan, or the citizen-journalist videos of the police shooting of Oscar Grant III at Fruitvale Station in 2009 (see extended discussion in Bender 2017a). These killings are unquestionably brutal, and the material clearly shocking both in affect and effect; however, the bodily movements and the sound of the gunshots differ significantly from what is generally shown in fictional killings. Thus an important area for future research is to consider the potential for such material to traumatize, as much as to fuel further aggressive acts. Given the significant ways in which science and cultural-communications studies have been able to complement each other in this area – as much as they have claimed to be in friction – it is perhaps possible for new modes of multidisciplinary research to explore both the impact of new mediated violence as well as to understand ways of mitigating viewer trauma in what could be viewed as a kind of *re-civilizing* process.

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17 Media and Health Communication

Abstract: This chapter focuses on theory and research related to new media use and its relationship to health information seeking and behaviors, online social support coping with health issues, and the role of new media in health interventions. Toward that end, it reviews key research findings from studies of online social support communities, online health information seeking and behavior, and new media health interventions along with a brief section that discusses key theoretical approaches that have been prominently used in these areas of research. Finally, the chapter discusses current limitations of theory and research in these areas as well as an agenda for future research.

Keywords: New media, health communication, online social support, information-seeking, health interventions

The growth of the Internet, social media, mobile applications, and a variety of other technologies has transformed the media landscape over the past two decades. These innovations have led to a number of changes in the way media and related new technology is used for health communication. Research from the Pew Research Center suggests that the use of the Internet for health information has increased dramatically, with 8 in 10 Internet users in the United States using the Internet to search for health information (Fox 2014). In fact, the majority of Americans go to the Internet first, rather than to a health care provider, for health information (Kreps & Neuhauser 2010). One third of U.S. online health information seekers have used social media resources to both obtain and share health information with members of their online social networks (Fox, 2014; Moorhead et al. 2013). The expansion of these technologies is certainly not limited to the United States. Globally, there are more than one billion people who use Facebook, and YouTube is the second most used social networking site in the world (Pew Research Center 2017). These and other social media platforms have increased people's ability to find and share health information with others in numerous countries around the world who are interested in similar health concerns.

One of the leading sources of health information and influence on health behaviors is online support communities. Health communication researchers have been exploring the use of such online communities since the 1990s (see Eysenbach et al. 2004; Weinberg et al. 1995; Wright 1999; Wright & Bell 2003; Wright & Miller 2010). Since that time, online health-related support communities have proliferated and have begun to play a much larger role in helping people with health concerns gain access to specialized information about health issues, social support, and other affordances, in a convenient and nonthreatening context (Wright & Rains 2013). Online

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health-related support communities have extended (or often replaced) face-to-face social support networks in ways that provide users with a wider array of experiences and information about health issues compared to traditional (close tie) support networks (van Ingen & Wright 2016). In addition to online support communities, health-related blogs have become an important source of health information for many Americans as well as a forum for venting emotions, therapeutic writing, and other behaviors (Kim 2009; Rains & Keating 2011; Sanford 2010; Sundar et al. 2007). These blogs are often trusted sources of information due to demographic and other similarities between bloggers and their audience members. Health blogs cover a surprising range of health topics, including cancer risk, nutrition, physical exercise, and vaccinations. Microblogging and related social media such as Twitter and Instagram allow people to follow both lay experts on health topics as well as health care professionals, and embedded links within these media can steer individuals to important health information.

Moreover, the widespread adoption of these technologies is providing numerous opportunities for health communication researchers to both examine health information seeking patterns and to conduct health interventions with a variety of populations within the U.S. and worldwide. For example, the Internet provides unparalleled opportunities to reach a wide range of individuals with vital health information – and to tailor messages to audiences' literacy levels, cultural orientations, and communication channel preference. This capability of the Internet (along with social media platforms and mobile applications) is presenting health intervention researchers with many possibilities in terms of campaign design, implementation, and evaluation (Kreps & Neuhauser 2010). Moreover, these use statistics do not appear to be limited to specific racial and ethnic groups. For example, many minority populations use the same online platforms as non-minority groups, and in some cases, they are heavier users than their White counterparts (Krogstad 2015). Ultimately, this trend signals a broad shift toward using new media to find and share health information.

This chapter explores many of the ways in which the new media landscape has transformed health communication in recent years. It is important to note that a discussion of all of the ways in which both traditional and new media intersect to influence our health is beyond the scope of this chapter. Instead, this chapter focuses on theory and research on new media and its relationship to health information seeking and behaviors, online social support coping with health issues, and the role of new media in health interventions. It reviews key research findings from studies of online social support communities, online health information seeking and behavior, and new media health interventions along with a brief section that discusses key theoretical approaches that have been prominently used in these areas of research. Finally, the chapter discusses current limitations of theory and research in these areas as well as an agenda for future research.

1 Key research findings and theoretical approaches to the study of new media and health communication

The following section examines key findings from empirical studies as well as influential theoretical frameworks that have been used to guide research in the study of online support communities. The strengths and limitations of this research and these theoretical approaches are important to understand so that future research may improve our ability to understand important online supportive contexts and processes.

1.1 Online support community research

Research findings suggest a shift in recent years toward using online networks for health information and other types of social support more frequently (Fox 2014). This has led to the impressive rise of online communities for people facing health concerns, expanding from several thousand support groups and communities in the 1990s to hundreds of thousands of communities by 2017 (Wright & Bell 2003; National Cancer Institute 2013; Pew Research Center 2017). Many of these communities consist of peers experiencing common health concerns who interact and support one another without former leadership; other online health-related support communities include opportunities to interact with physicians or other health-care providers (e.g., WebMD).

Studies have found that these communities can offer advantages (and some disadvantages) in terms of social support (Rains & Young 2009; Wright & Bell 2003). For example, compared to face-to-face support networks, online health support communities are frequently used by individuals with rare health conditions or issues that are not well understood by physicians, that are difficult for health-care providers to explain in layperson terms, or if members of one's primary social network (i.e., friends and family members) have limited knowledge of their health condition (Meyer, Coroiu & Korner 2015; Tanis 2008; Campbell-Grossman et al. 2009; Tong et al. 2013). Many online community users report that they often receive inadequate informational support from their traditional social networks and health-care providers, and they may perceive online support communities as a better alternative for receiving health information (Wicks et al. 2010). Online support community users report less stigmatization of health problems compared to interactions with traditional network members, and the reduction of health stigmatization within these communities has been linked to reduced stress, anxiety, and depression (Wright & Miller 2010; Wright & Rains 2013). In addition, members of these communities report other advantages, including convenient connections with others in similar health circumstances, ability

to communicate anonymously, reciprocity of social support, and a judgment-free space for people to share information about their health status (Meyer, Coroiu & Korner 2015; Wright 2016).

Furthermore, research on health-related online support communities has found that members are capable of drawing upon the collective experience of participants who share a health issue in ways that are not possible in the face-to-face world since the Internet allows people to access and interact with others in the community across geographical boundaries (Meyer, Coroiu & Korner 2015; Wright 2016). Online sources of social support appear to replace or extend traditional offline support networks in terms of providing greater access to the increased social capital available in a larger, easier to maintain network of individuals who are often geographically separated (Walther & Boyd 2002; Ellison, Steinfield & Lampe 2007; Kim & Lee 2011). The asynchronous and mediated nature of online communication helps alleviate time and space barriers that exist for support settings that require the simultaneous presence of conversational partners (Turner, Grube & Meyers 2001). These communities can often offer people who are coping with health problems higher quality health information and support for health behavior change than is available among traditional, face-to-face sources of support. In addition to convenience, online sources of social support can also help people with health problems overcome accessibility barriers and high service fees associated with more traditional sources of information and support, such as therapy (Barrera 2000).

1.2 Theoretical approaches to the study of online support communities

In this section I will briefly discuss some of the prominent theories that have been applied to the study of online support communities. It is important to recognize there is a great deal of conceptual overlap between tenets of each of these theories, although they have not been integrated in research and theory development to date.

1.2.1 Social network theory

Social Network Theory suggests that people access personal communication networks for relevant information and support from others (Berkman & Glass 2000; House, Landis & Umberson 1988; Valente & Fujimoto 2010). Specifically, personal network relationships can help members access social cues, provide people with a sense of belonging, form their identity, and gain a sense of protection from being around others like them (Valente & Fujimoto 2010). Online communities provide individuals with the potential for increased social capital in the form of access to

an expanded network of relationships (Kawachi, Subramanian & Kim 2008), which appears to serve an important function in terms of helping people obtain informational and emotional support from others in ways that may be different from or supplementary to the support they receive from offline relationships when coping with everyday stressful life events (Mikal et al. 2013; Rains & Keating 2011; Rossetto, Lannutti & Strauman 2015). This framework is useful for understanding the structure and strength of ties within online support communities.

1.2.2 Optimal matching model

According to the optimal matching model of social support, support may not be perceived positively if it fails to match the specific type of support needed by a person (Cutrona & Russell 1990). Different aspects of online support community, such as the type of health issue it deals with and the degree of member participation, may influence optimally matched support. Rains, Peterson, and Wright (2015) conducted a meta-analytic review of 41 online support community content analysis studies from an optimal matching model perspective. Their study found that nurturant forms (i.e., emotional and network support) of support messages were more common in content analyses examining health conditions likely to affect personal relationships. They concluded that emotional and network support may be helpful for people facing these types of health conditions to cope with the aversive emotions stemming from the strain placed on one's personal relationships and the need to expand one's network to additional support resources to supplement traditional relationships. Informational and tangible support were more prevalent among content analyses examining relatively chronic conditions than among more acute conditions. In short, this study provided evidence that key variables from the optimal matching model were associated with the expression of various types of social support across a large number of health-related online support community studies.

Moreover, factors such as frequency of use, type of participation, reasons for use, and perceived availability and perceived quality of support may all affect perceptions about the degree to which support needs are met within online communities. Mo and Coulson (2013) found that, relative to lurkers, members who actively participated in a health-related online support community (by actively posting to the group and responding to others) were more likely to report that they received social support and useful information from the community and were more likely to report being satisfied with other members. Other studies have shown that active participants (especially those who participate more frequently) feel greater identification with their community and greater self-acceptance as a result of participating relative to lurkers (i.e., people who read other's posts to the online community, but who do not participate by posting) (McKenna & Bargh 1998). One study of mental-health communities found that active participants experienced greater stigma recovery than lurkers (Lawlor & Kirakowski 2014).

1.2.3 Weak tie network theory

Whether social support stems from weak- versus strong-ties may also affect optimal matching (Wright & Rains 2013). Weak ties are described as interactions between individuals who do not have a close interpersonal relationship but who may provide social support to one another (Granovetter 1973). By contrast, strong ties are those between individuals who are relationally close, such as family and friends (Granovetter 1973). Online support communities appear to be significant sources of weak tie support for individuals facing health concerns (e.g., Walther & Boyd 2002; Wright & Bell 2003). This may be because weak ties found in such communities tend to provide greater heterogeneity of information regarding a stressful situation, are less likely to judge an individual due to his problems, and make it less risky for people to disclose sensitive information (Wright & Miller 2010). At the same time, weak-tie network members, being less emotionally attached, tend to be more willing to talk about difficult and unpleasant situations (Wright & Miller 2010). In some cases, partners or spouses (i.e., strong ties) may be primary sources of social support for people facing health issues. However, discussing health issues may lead to tension within the relationship and lack of communication about the health issue among some relational partners (e.g., Boehmer & Clark 2001).

In such instances, weak-tie support may serve as an alternative or complement to communication about health issues among stronger tie network members (van Ingen & Wright 2016; Wright & Miller 2010). Studies have shown that meeting social support needs within an online context is especially preferred by individuals who feel stigmatized by their health condition (e.g., Green-Hamman & Sherblom 2014; Wright & Miller 2010; Wright & Rains 2013). Wright and Rains (2013) attribute this to weak-tie support network preference. Studies have also found that the high potential availability of support within online support communities (due to the large number of individuals within these communities) and the perceived quality of support from online support providers (stemming from the fact that community members have experienced similar health issues and can provide specialized information about symptoms, treatment options, etc.) may influence preference for seeking support among online weak ties (e.g., Holbrey & Coulson 2013; Yli-Uotila, Rantanen & Suominen 2014).

1.2.4 Social information processing theory

The majority of social interactions within online health-related support communities still consist of on-screen text (e.g., bulletin board postings), and therefore a large amount of visual information typical of traditional face-to-face interactions is concealed during online communication. This and other features of online communities have been found to increase relational development by creating a more comfortable social situation for socially anxious individuals or individuals who are often

stigmatized by others due to their health issues in offline interactions. According to Social Information Processing Theory (Walther 1996; Walther & Boyd 2002), the online environment has several characteristics, such as non-synchronicity, that facilitate disclosure of an idealized self and that help individuals gain intimacy with others through online self-disclosure (Walther & Boyd 2002), leading to formation of new relationships. But online communities provide more affordances for individuals coping with health issues, like increased controllability of online presentation (Green-Hamman & Sherblom 2014; Wright 2016; Wright & Bell 2003). These features make online community use a less risky and more controllable environment in which people with health problems can communicate with greater confidence compared to offline contexts. Studies have confirmed this by indicating that individuals with poor offline self-presentation and lower communication skills may prefer online communication tools to interact with others (Morahan-Martin & Schumaker 2003). More recently, Davila et al. (2012) identified this selection effect of online communities through a longitudinal study. Of course, newer applications may move these types of communities away from text in the future toward more synchronous and richer media platforms.

2 New media and health information-seeking, and health behavior

This section presents a brief overview the relationships among new media use, health-information seeking, and health behaviors. Although social media platforms and news websites are in a constant state of transition, the published literature in this area has identified a number of health-information seeking patterns and it has linked these to a variety of health behaviors.

2.1 Online health information-seeking

New media and related health technologies attempt to engage health consumers with technology to promote healthy behaviors and informed decision making. Emerging health information via these communication technologies bring the promise of transformations in the delivery of care, empowering patients to make more informed health care decisions, connecting patients directly to providers and other caregivers, and personalizing services in response to patients' unique needs and preferences (Neuhauser & Kreps 2010). Information and communication technologies used by consumers for health purposes are increasingly allowing individuals to conveniently learn about, manage, and monitor their health via electronic devices. The use of consumer health technologies may help stem rising health care costs by improving

provider-to-patient communication, health condition monitoring, and health information access by enabling self-care. Social media, which includes a variety of channels, such as Internet forums, social blogs, social networks, weblogs, wikis, and podcasts have different features and sometimes targets a specific audience. Social media can serve as an important information resource to address public health concerns in real time, without the need for traditional intermediaries, such as the news media (Dutta-Bergman 2004; Kivits 2009). Consumers have been increasingly seeking “active channels” like the Internet as a primary source of health information – particularly for the most health conscious (Dutta-Bergman 2004).

Despite the advantages, there are many characteristics that distinguish new media from more traditional communication media in terms of health information. First, despite the potential wealth of information offered by new media, health information seekers must overcome a number of barriers to acquire medical information, including the successful operation of computer hardware and software. Second, the Internet, social media, etc. often lack professional gatekeepers that help define traditional media like newspapers and television (Cline & Haynes 2001). Web 2.0 technology allows almost anyone with access to the Internet to potentially contribute medical information on wikis, blogs, Facebook, Twitter, or message boards. Additionally, the Internet is marked by the blending of advertising and informational content, such as sponsored content (Flanagin & Metzger 2013). Some pharmaceutical websites offer extensive medical information and simultaneously make consumers aware of their products via sponsored content “stories” about a wide range of health issues. Such features of new media can present challenges for audiences to assess the credibility of health information (Basu & Dutta 2008; Flanagin & Metzger 2013; Rains & Karmikel 2009). Third, new media self-efficacy, health literacy, numeracy, and other issues tied to level of education and experience may influence the degree to which individuals are able to locate and understand (often complex) health information (Basu & Dutta 2008; Hong 2006; Lustria, Smith & Hinnant 2011). Health information seekers must also be able to identify a search engine, select appropriate search terms, and evaluate the results of searches (Dutta-Bergman 2004; Kivits 2009; Zeng et al. 2002). The Internet offers a wide range of medical information and advice of widely varying quality (despite appearing next to one another in the results of using a search engine). Eysenbach et al. (2004) conducted a meta-analysis of 79 studies that examined over 5,900 health-related websites, reporting that consumers struggle with locating accurate, complete, and quality online health information.

As we saw with online health support communities, there are a variety of motivations behind why people may seek health information via new media versus traditional sources of health information (including traditional media). In some cases, new media may be seen as an alternative for health information to information gleaned from traditional mass media sources, such as TV and newspapers. Moreover, individuals may turn to the new media for health information when they are not satisfied with the information from their doctor or want to gain access to a different perspective

(Broom 2005). The vast range of health information sources that are available via new media is daunting. They range from popular websites like WebMD, hospital- and medical center-affiliated websites, health wikis, online support communities, pharmaceutical product websites, and medical tourism websites. In addition, social media communities centered around virtual or real-world games designed to increase physical activity, and locally-based Facebook sites for runners, vegetarians, vegans, and a host of other health-inspired groups are among the many health related choices that individuals can gravitate toward in the new media landscape.

2.2 Blogs and health behavior

One important source of health information that has grown in popularity in recent years is health-related blogs. Blogs describing an individual's experience with a health condition are among the most popular type of health-related blogs (Miller & Pole 2010; Sundar et al. 2007). Blogs are defined as frequently modified web pages in which dated entries are listed in reverse chronological sequence (Herring et al. 2007). Miller and Pole (2010) also conceptualized blogs as online journals. The first blogs were started in the early 1990s, and with the advent of easy-to-use (and mostly free) software, the number of blogs has risen to an estimated 133 million (Miller, Pole & Bateman 2011).

Researchers studying health blogging have examined demographic differences in health bloggers (Miller, Pole & Bateman 2011), motivations for health blogging (Chung & Kim 2008). An important dimension of health blogs is that they may be available to the public and read by a range of people. Blogging is an inherently social activity in which the audience has the opportunity for direct participation (Nardi et al. 2004; Stefanone & Jang 2008). Many blogs include a comments feature that allows readers to provide public feedback to the blogger. A variety of studies (Chung & Kim 2008; Kim 2009; Rains & Keating 2011; Sanford 2010; Sundar et al. 2007) have found evidence that facilitating social connection, venting, and reporting personal (positive) health milestones are key motivations for and outcomes of health blogging. Rains and Keating (2011) found that bloggers who lack support from traditional social network sources (e.g., friends and family) tend to have lower levels of loneliness compared to individuals who do not supplement traditional support networks with blogs. Additionally, similar to other types of online health communities, blogs appear to be popular among individuals who face rare or stigmatized health conditions.

For example, Rains (2014) studied people who blog about their experiences coping with embarrassing health conditions. His findings suggest that anonymity may be used strategically by health-related blog users and fosters self-disclosure among individuals who are embarrassed by their illness. Keating and Rains (2015), in a three-year panel study, found improvements in bloggers' health self-efficacy as well as improvements in bloggers' loneliness, particularly among those who also

experienced increased support availability from blog readers. Increased blog reader support availability was associated with improvements in bloggers' health-related uncertainty. However, health information within blogs may not always be tailored to a reader's specific information needs. For instance, Kim (2009) analyzed cancer-related blog posts and found that such blogs often use language that is much too broad for patients and their families who are seeking specific information, which, in turn, makes finding relevant information across these blogs difficult.

Finally, health bloggers also appear to play a role in terms of being opinion leaders when it comes to sharing information about a particular health issue with readers (Burke-Garcia et al. 2017; Wang, Lam & Fielding 2016). Opinion leaders are trustworthy members of a social network. In the context of health blogs, this definition can be extended to people with large following, who are considered an authority on specific health issues. There is some evidence that women in particular may be important opinion leaders in terms of disseminating health information (Burke-Garcia et al. 2017). For example, 86% of women report that they make the decisions about healthcare treatments for their entire family (Chatman 2015; eMarketer 2013). Blog posts have the potential to spur interpersonal communication that may affect behavior in terms of reinforcing social norms or group views related to a variety of health issues. Health blog authors can be opinion leaders that influence their readers in important ways on a wide array of health issues like cancer, vaccination, and other health concerns (Chung & Kim 2008; Keelan et al. 2010; Zhang, Gotsis & Jordan-Marsh 2013). For example, Keelan et al. (2010) analyzed unique MySpace blogs that mentioned the HPV vaccine in May 2008. Their study revealed that about half of the blogs were positive toward the vaccine and nearly half were negative.

2.3 Smartphones and mobile applications

In recent years, smartphones (and the applications they provide access to) have become one of the primary ways people gain access to the Internet and social media. New mobile applications have taken advantage of the media convergence potential of smartphones (e.g., GPS combined with wireless Internet, video, data from FitBits and other wearable physiological tracking devices). Several researchers have examined the health information and social support potential of smartphones (Boulos et al. 2014; Chou et al. 2009; Kreps & Neuhauser 2010). Although diet and exercise applications and devices are currently the most widely used health-related features of smartphones (Boulos et al. 2014), other applications are available for a variety of health issues, including alcohol addiction recovery support, smoking cessation support, and support for mental health issues (Luxton et al. 2011; Alvarez-Jimenez et al. 2014; Boulos et al. 2014). These applications can allow researchers to access available data from smartphones, including activity levels and diet information, which can be used as important health outcome measures. Moreover, these appli-

cations also provide the names/online contacts of online social network members with whom an individual shares his or her health information *via* these applications. This allows researchers to examine the structure of online support networks through methods such as online social network analysis.

2.4 Theoretical approaches to the study of new media and health information-seeking, and health behavior

2.4.1 Expressive writing paradigm

Several scholars have found that expressive writing is a key feature of health-related blogs and similar online platforms, and it has been linked to positive health outcomes for participants (Hoyt & Pasupathi 2008; Kim 2009; Rains & Keating 2011; Sundar et al. 2007). Articulating one's experiences in writing appears to serve as a coping mechanism, and impacts the blogger's perceptions and experiences of his or her illness and life with illness. In short, health blogging is associated with therapeutic processes that are associated with improvements in bloggers' well-being.

Several studies have provided evidence that expressive writing within health-related blogs is a therapeutic approach that can lead to significant improvements in an author's physical health, psychological well-being, psychological functioning, and overall functioning (Leggatt-Cook & Chamberlain 2012; Pennebaker & Chung 2007, 2011; Ressler et al. 2012). Blogs can be used as a coping tool, allowing the author to utilize planning and organization skills, to reflect on life and gain insight, and to reduce psychological distress through venting and processing painful emotions (Pennebaker & Chung 2011). The expressive writing paradigm is rooted in the idea that confronting deeply personal issues can promote physical health, subjective well-being, and selected adaptive behaviors (Lepore et al. 2002; Pennebaker 1997). Blogging is similar to expressive writing in that health bloggers are articulating in writing their experiences during a traumatic life event, and bloggers have the opportunity to write in-depth and without constraint (Rains 2014; Sundar et al. 2007).

2.4.2 Uncertainty management theory

An important theoretical framework that has been frequently applied to the study of online health information seeking and behavior is Uncertainty Management Theory (Brashers 2001; Brashers, Goldsmith & Hsieh 2002; Rains 2014). According to Brashers (2001), individuals tend to seek information to both increase their knowledge, but also to confirm or disconfirm their current state of belief about a health issue. In other words, health information can be used to manipulate uncertainty in a desired

direction (such as increasing, decreasing, or maintaining uncertainty) via behaviors such as information avoidance, selective interpretation, etc. Studies have found that participants manage uncertainty by gleaning information about the status of their health issues through social comparisons that take place when reading health blogs (Batenburg & Das 2015; Vilhauer 2009; Wright & Bell 2003). Such social comparison processes do not even require actual participation in a health blog, but can result from passive involvement (e.g., reading about other's experiences). Stress can result from reading about difficulties experienced by other community members (Holbrey & Coulson 2013; Malik & Coulson 2008). Other drawbacks include social comparisons with others who are improving (Malik & Coulson 2008) and becoming negatively focused on one's illness (Holbrey & Coulson 2013).

2.4.3 Diffusion of innovations/opinion leadership

Another theory that has been used to explain the relationship between new media use and behavior is Diffusion of Innovations Theory (Rogers 1962). In this theory, innovations and novel information spread through channels over time throughout a social system. This theoretical perspective posits that not all actors in a social network are created equal; rather different actors play different roles in the diffusion process (Dearing 2009). Opinion leaders typically serve as role models for other individuals and are linked to sustained health behavior change (Valente & Fujimoto 2010). Opinion leaders tend to be close to those they influence and tend to remain steady as influencers over time (Dearing 2009). Moreover, according to the two-step flow theory, opinion leaders often exert more influence on people's opinions, actions, and behaviors than the media. In terms of new media, key opinion leaders such as blog authors have been found to influence health attitudes, beliefs, and behaviors (Chung & Kim 2008; Valente & Fujimoto 2010).

3 New media and health interventions

Another promising area of new media and health communication research is the use of the Internet, social media, and health-related applications in the design, implementation and assessment of health interventions (Chou et al. 2009; Kreps & Neuhauser 2010; Mohr et al. 2014). As discussed earlier, the Internet and related technologies has the potential to reach large populations of individuals facing a variety of health issues. As with all new technologies, new media health interventions have many advantages and limitations.

The interactive nature of social media allows senders to reach broad audiences and receivers to get involved in the conversation (Kreps & Neuhauser 2010; Mohr et al.

2014). Studies that examined health promotion through social media indicate potential for using blogs, Twitter and other online communication channels, not only for increasing awareness but also to influence decision making to a wide variety of population segments (Gustafson & Woodworth 2014; Krogstad 2015). Health campaign researchers have become increasingly aware of the need to integrate social networks and interpersonal relationships into population-based health-care interventions (Kreps & Neuhauser 2010; Valente & Saba 1998; Chou et al. 2009). These social relationships are often important in terms of helping target audience members change and maintain healthy behaviors, such as diet and exercise, getting screened for cancer, smoking cessation, etc. New media health interventions, however, are not meant exclusively as a replacement for face-to-face interventions. For example, they can act both as a gateway to a person receiving in-person help, and to supplement such help.

New media interventions can take a variety of forms, including the use of mobile devices (also called mHealth interventions), the integration of sensors for patient monitoring (e.g., monitoring physical activity, blood pressure, blood sugar levels, etc.), social media, virtual reality gaming, and health-related gaming (Kumar et al. 2013; Mohr et al. 2014). New media campaigns also vary in terms of media richness and whether they are synchronous or asynchronous. For example, webcam and smart phone video applications allow for more immediate and spontaneous interactions that may more closely resemble traditional provider-patient interaction, and they also allow for more nonverbal communication channels (e.g., facial expressions, paralinguistic cues, etc.) to be available during interaction (Mohr et al. 2014). Depending on the health issue, it may be more important for providers or researchers to assess such nonverbal cues than in other types of new media interventions.

Mobile technologies can harness sensors and ubiquitous computing to provide continuous monitoring and/or intervention in the patient's environment. Virtual reality interventions can create simulated environments that afford a high degree of control in engineering the provision of therapeutic experiences (Kumar et al. 2013). Online gaming application may provide teaching methods that are more engaging and help to promote and track physical activity in the real world with GPS sensors (Fanning, Mullen & McAuley 2012). These opportunities may also challenge and expand the limits of our knowledge regarding human behavior and behavior change processes. Virtual reality environments as well as virtual humans, or conversational agents that are programmed to interact with a user within a virtual space, have been used in health interventions to simulate real world experiences and interactions (Mohr et al. 2014). Virtual characters can be implemented in the context of immersive, virtual reality interventions, including those for anxiety management, attention deficit disorder management, and negotiating safe sex practices for HIV and other STD prevention (Lisetti et al. 2013; Kato 2010; Muessig et al. 2013). Virtual agents have been found to elicit more questions from those with lower health literacy compared to face-to-face health interventions, suggesting that such agents may have the potential to provide health information in a supportive, nonthreatening manner (Kennedy et al. 2012; Lisetti et al. 2013).

Additionally, web-based games are often designed as elaborate online worlds that support exploration and stimulate therapeutic role playing. Games can be very engaging and thus have the potential to increase patient motivation, to initiate and continue treatment, and to support successful behavior change (Kato 2010; Lin et al. 2006; Muessig et al. 2013; Wang et al. 2014). Virtual games have been examined as treatments for a variety of health conditions, including autism spectrum disorders, safe sex practices, and diabetes and cancer management (Christensen et al. 2013; Moller et al. 2014; Wang et al. 2014).

Even “low tech” features of smartphones, including text messaging, have been used extensively in health interventions, particularly in the developing countries where older mobile phone technology may be the norm (Déglise, Suggs & Odermatt 2012; Head et al. 2013). These types of interventions also provide opportunities for researchers to better understand how texting and other older technologies can be used for social support and improvement of health outcomes among people in developing countries. The vast majority of new media health interventions have focused on more affluent and tech-savvy segments of the U.S. population and worldwide. Yet, it is important to realize that SMS and older forms of technology (e.g., older cell phones) may be more influential in terms of making an impact on health behaviors due to their widespread adoption around the globe (Head et al. 2013).

Intervention process and outcome evaluation can be facilitated via unobtrusive data collection, including sensors that automatically collect data to help infer the patient state. These sensors can be located within a mobile device (e.g., global positioning system (GPS), Bluetooth, accelerometer, etc.) or can be external devices available via a wireless connection (e.g., heart rate or galvanic skin response sensors). Various public health programs have demonstrated success in adapting social media as a communication platform for health promotion efforts such as smoking cessation and dietary interventions, increasing their reach through the Internet (Chou et al. 2009; Fanning, Mullen & McCauley 2012).

3.1 Theoretical approaches to the study of new media and health interventions

The majority of new media health intervention studies to date have relied on somewhat traditional health behavior theories and models from the social sciences, including those that are commonly used in traditional health campaigns (Riley et al. 2011). For example, one meta-analytic review of online health intervention campaigns (Cugelman, Thelwall & Dawes 2011) found that the transtheoretical model (Prochaska & Velicer 1997) was the most popular, used across 47% of the new media interventions examined in the meta-analysis. Other common theoretical frameworks used in this study should be quite familiar to health communication campaign research-

ers, including social cognitive theory (Bandura 1989) (used in 13% of studies), the extended parallel process model (EPPM) (Witte 1992) (used in 7% of studies), the health belief model (Rosenstock 1974) (used in 7% of studies), and the theory of reasoned action/theory of planned behavior (Ajzen 1991) (also used in 7% of studies).

While these frameworks are certainly useful in terms of understanding a wide array of health behaviors, such findings suggest that new media and health intervention scholars have been somewhat limited in terms of their theoretical approaches. Pingree et al. (2010) contend that new media health interventions tend to be complicated and multifaceted, and that theorizing about new media/e-health needs to address this complexity, variability of patient needs, and changes over repeated or long-term intervention use. There are often many more causal steps than any of the theoretical frameworks mentioned above implies, and most new media interventions are likely to achieve their results by multiple causal paths. Pingree et al. (2010) also argue that given the wide variety of purposes and techniques of such campaigns, there will probably never be a single general theory that can be applied to new media and health interventions. Because theory provides a framework guiding the selection of health intervention components from a huge array of potential sources of variance, it guides the choice of study design and samples, and it helps select appropriate outcomes for measuring the effects of the intervention. In terms of online support, blogs, and other interactive types of new media research, scholars should work on integrating overlapping concepts from major theories of face-to-face social support, online social support, and computer-mediated communication theory (Nabi, Prestin & So 2013).

4 Limitations of new media and health communication studies and directions for future research

One of the challenges of new media and health communication research is the ability of scholars to demonstrate that exposure to online information/messages and online interactions have consequences in terms of real-world health behaviors. In terms of online interactions, for example, more research is needed to empirically demonstrate how online supportive relationships and conversations about health translate into face-to-face relationships and conversations. Connecting these online and offline worlds empirically can be difficult for researchers, yet there is evidence that relationships that are initially formed in the online world can promote interactions and relationships in the offline world (Xie 2008), and more research is needed to better understand how these two contexts interact in terms of health communication and behavior change.

Theories and methods in future research need to take into account a more comprehensive perspective of the influence of new media on health outcomes, including the main effects and interaction effects of online and offline sources of health information and social support, differences in the influence of mediated variables (i.e. the influence of different computer-mediated channels and contexts), and key demographic and environmental variables on health outcomes. Theories also need to account for the intersections of virtual and face-to-face health information exchange in ways that are being transformed by media convergence (e.g., GPS chips and applications that allow you to find key people and resources from mobile phone applications and other virtual sources in the face-to-face world).

Future studies are needed that draw upon big data regarding new media and health interventions, and mediated/interpersonal approaches to health behavior change. The majority of research studies to date have tended to rely on relatively small nonprobability samples and self-report measures. However, with the development of computer programs that measure various Internet usage patterns, such as social network analysis programs and other online analytics, large amounts of data regarding the structure and composition of a person's online social support network and the types of web information and sources he or she downloads can be integrated into study designs (along with self-report measures). This may help scholars gain a better understanding of the complexity of online social support network influence on health outcomes. Big data offers the opportunity to improve the quality of health interventions and develop deeper tailoring and personalization. However, researchers should be aware that big data studies present challenges in terms of data capture, storage, and cleaning.

As research studies on new media and health continue to develop, more meta-analyses and meta-analytic reviews will be needed to assess the impact of new media on health behavior across similar types of studies. For example, meta-analytic reviews have contributed greatly to our understanding of newer areas like online support group network influences on health. For instance, Rains and Young (2009) conducted a meta-analysis of 28 published online support group studies dealing with people coping with health concerns. They found that greater participation in online support groups was related to increased perceived support, reduced depression, increased quality of life, and increased self-efficacy in terms of managing health problems. Similar meta-analyses and meta-analytic reviews are needed to assess other facet of new media and health, including the impact of health-related new media platforms, blogs, and various new media health interventions on key behavioral outcomes.

Finally, more studies are needed to better understand complex cultural differences in how new media's influence on health is conceptualized, how communication processes may differ depending on channels/modes of new media, and the ways in which culture influences health outcomes across a wide variety of cultural contexts. Specifically, more research is needed in the area of cross-cultural and international comparisons in terms of assessing the relationship between new media use and

health outcomes (including regionally-specific health issues). Qualitative research as well as quantitative studies can both make important contributions to the study of cultural influences on new media and health outcome processes. For example, within the area of online support community and health outcome research, the majority of the studies have been conducted in a relatively small number of countries in Europe and Asia (mainly China) (Deng et al. 2010; Rao et al. 2012; Van Tilburg 1998). While this is a step in the right direction, many regions of the world that often suffer the greatest health disparities have been ignored by new media and health scholars. Although some newer studies have begun to investigate new media and health in other regions of the world (Kanbara et al. 2008; Ncama et al. 2008; Sivaram et al. 2009), more large-scale studies and comparative research is needed. In terms of research on health-related gaming interventions, most games have been developed for children and adolescents, and relatively few studies have evaluated the efficacy of these games on health outcomes in more diverse segments of the life span (Wright 2016).

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Dana Mastro and David Stamps

18 Race/Ethnicity and Media

Abstract: The current chapter systematically documents the implications of exposure to racial and ethnic depictions in the media, on audiences. To this end, the quantity and quality of portrayals of racial and ethnic groups across U.S. media are detailed, including representations of Blacks, Latinos, Native Americans, Asian Americans, Arab Americans, and Middle Eastern Americans. Next, the empirical evidence demonstrating the effects of exposure to these characterizations, on both members of these groups and non-members, is presented. Whenever possible, attention is devoted to identifying the types of message features and audience characteristics that are likely to produce: (a) damaging intergroup outcomes ranging from cognitions to emotions to behaviors, (b) constructive intergroup outcomes, including prejudice reduction, and (c) harmful or beneficial effects on psychological well-being. An agenda for future research is also discussed, including a call for consideration of multiple and intersecting identities in media effects research.

Keywords: media effects, race/ethnicity, stereotyping, prejudice, discrimination, intergroup communication, content analysis

Ratings-wise, it works. People like to see it. I don't understand why people don't understand that the world of TV should look like the world outside of TV.

– Shonda Rhimes, *Salon* interview, February 10, 2013

As producer and screenwriter Shonda Rhimes pointedly remarks (above), there is a disconcerting discrepancy between the content preferences of media audiences and the offerings that are produced for them. Indeed, despite the fact that both TV programming and films with inclusive and wide-ranging casts attract larger audiences than media fare with less diverse casts (Hunt et al. 2017), content analytic research has consistently revealed a pattern of underrepresentation and misrepresentation, across platforms and genres (Mastro 2009). Although portrayals of Blacks on primetime entertainment television provide one exception to this tendency, the degree of evenhandedness currently found for this group within this context does not generalize across different media forms or even across TV genres. Unsurprisingly then, concerns have repeatedly been raised regarding the implications of exposure to this content on both underrepresented and dominant group members. The current chapter details the existing empirical research in this area. Specifically, this chapter: (a) reviews the quantitative content analytic research documenting portrayals of race/ethnicity in English-language U.S. media; (b) summarizes the small body of research examining the implications of exposure to these characterizations (both positive and negative) on racial/ethnic group members; and (c) synthesizes the broader array of research investigating the effects of exposure to

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both constructive and unfavorable/stereotypic racial/ethnic portrayals on dominant/White audiences. Implications of this work and recommendations for ongoing research are also offered. It should be noted that although the bulk of the quantitative research exploring these issues focuses on television, research examining film, advertising, video games, and other interactive media is addressed when possible.

1 Portrayals and effects

Media messages convey both concrete and abstract information about the characteristics, behaviors, norms, beliefs, status, etc., of different groups in society. Given this, it is not surprising that media use has been implicated in a wide variety of real-world intergroup and identity-based outcomes (Mastro 2009). Indeed, alongside messages from family, friends, and other cultural institutions, media exposure contributes in a modest but consistent and meaningful way to individual's belief-systems regarding one's own and other racial/ethnic groups and can even play a role in dictating behaviors in society. Accordingly, how and how often diverse groups are depicted in the media is consequential as the effects of exposure depend, largely, on the nature and frequency of the media characterization.

2 Black Americans

When it comes to media representations of Blacks, in several domains positive changes in both the number and quality of depictions have emerged over the decades – although this is not the case for all genres or platforms (Mastro 2009). Research suggests that sheer numeric representation in the media communicates a message to audiences about the value and standing of different groups in society (Harwood & Roy 2005). In light of this, it is important to address not only the quality but also the quantity of media representations of diverse groups.

2.1 Quantity of portrayals

Content analytic evidence indicates that the rate at which Blacks are seen on prime-time television, in advertising, and (at times) in film has improved to the point of parity with population parameters: 13.3% in the U.S. (U.S. Census 2015). Although this is cause for cautious optimism, representation varies dramatically based on film and TV genres (Mastro 2009; Smith, Choueiti & Pieper 2012).

Historically, very few images of Blacks could be found on primetime television prior to the 1970s (Wilson, Gutierrez & Chao 2013). During that time, Blacks comprised approximately 12% of the U.S. population (U.S. Census Briefs 2010), yet they made up

only 6% of characters on TV (Greenberg & Brand 1994). The proportion rose to 8% in the 1980s and 11% by the early 1990s (Mastro & Greenberg 2000), with the mid-1990s marking the start of numeric equity with the U.S. population (approximately 13% on TV & 12% of the U.S.). This more equitable rate of representation has been sustained since that time (Mastro & Tukachinsky 2011; Monk-Turner et al. 2010). Although these overarching percentages are a meaningful indicator, a more careful inspection reveals a less evenhanded picture, with representations varying, sometimes dramatically, across genres (e.g., Signorielli 2009a, 2009b). To illustrate, in her work documenting depictions of diverse groups across the TV landscape, Signorielli (2009a, 2009b) found that although Blacks had achieved equivalence with real-world figures in term of their overall rate of depiction, Black characters were largely isolated to limited genres and networks or shows with “mostly minority characters” (Signorielli 2009a). Consequently, she argues that looking only at overall representation figures masks the ongoing segregation across the broader television landscape. Earlier research by Harwood and Anderson (2002) yielded similar results indicating that although the number of Black characters on television had increased, half were found in only 7 of 61 shows.

When it comes to analyses of depictions of Blacks in film, much the same pattern emerges. Although the rate of appearance of Black characters meets or (in some cases) exceeds their proportion of the population, they are not found in a wide array of film genres and are instead largely presented in films with predominately Black casts (e.g., Eschholtz, Bufkin & Long 2002). This tendency to constrain Blacks to certain genres or types of programs is not without consequence. Given the norms and limitations inherent to the content, style, and structure of different genres, such compartmentalization in representation increases the potential for audiences to be exposed to one-sided representations or not to see any Black characters at all (e.g., Mastro 2009). Accordingly, a consideration of the way Blacks are portrayed in the media is critical.

2.2 Quality of portrayals

In terms of the quality of television portrayals of Blacks, the earliest characterizations (when present) relied predominately on unfavorable archetypes popularized in radio and film (Greenberg, Mastro & Brand 2002; Wilson, Gutierrez & Chao 2013). These included depictions of Blacks as servants and laughable objects of humor. The 1960s, during and following the Civil Rights movement, were marked by changes in programming which intended, in part, to provide more sympathetic and favorable representations of Blacks and of interracial relations in the United States. Although a positive departure from the past, these depictions were sometimes seen as overly idealistic given the realities of the era. By the 1970s Black characters on television were primarily found in sitcoms featuring predominately Black casts. To some extent, these situation comedies were identified as important for their focus on Black families across

varying socioeconomic backgrounds. At the same time, many disparaging and otherwise unflattering stereotypes were also common in this content, including depictions of Blacks as servants, objects of humor, lazy, poor, and unemployed (Ford 1997; Greenberg, Mastro & Brand 2002; Ward 2004). The 1980s offered a notable shift in the quality of television portrayals of Blacks. During this timeframe, Blacks were presented as professional and successful experts, a trend that continues today (e.g., Harwood & Anderson 2002; Mastro & Behm-Morawitz 2005). Yet content analytic evidence also indicates that compared with other racial/ethnic groups on TV, Blacks continue to be portrayed as less respected, less professional, and more unkempt in their appearance (Mastro & Behm-Morawitz 2005; Monk-Turner et al. 2010; Signorielli 2009a, 2009b). Altogether then, the current landscape offers an array of admirable characterizations but with questions remaining regarding Black character's isolation within programming/genres and the persistence of certain stereotypic media narratives.

When it comes to depictions of Blacks in the news, a distinctly different and entirely unfavorable set of messages is offered, revolving primarily around criminality. Although Blacks are presented only infrequently in the news, when represented they are disproportionately seen in crime news stories (Dixon & Linz 2000a; Entman 1994; Romer, Jamieson & DeCoteau 1998), with few exceptions (i.e., Dixon & Williams 2015). In such news coverage, Blacks not only are portrayed as criminal suspects or perpetrators (Dixon & Linz 2000a) but also are presented as threatening and disheveled (Entman 1994). Further, Dixon and Linz's (2002) data indicate that prejudicial information (such as prior arrests) is reported more frequently in the news when the defendant is Black (vs. White). This disproportionate coverage of Blacks as criminals is inconsistent with Whites' rate of depiction as criminals and is also discrepant from real-world statistics such as arrest reports (e.g., Dixon & Linz 2000a, 2000b). This finding holds for both Black adults seen in the news as well as Black youth in the news (Dixon & Azocar 2007). In fact, Dixon and Azocar (2007) find that 39% of juvenile perpetrators seen in the news are Black (18% in Department of Justice statistics) whereas 24% are White (22% in Department of Justice statistics). Finally, in addition to their overrepresentation as criminals in the news, Blacks are substantially underrepresented as police officers on television news (3%), compared with U.S. police population figures demonstrating that Black police officers represent roughly 16% of law enforcement (Dixon, Azocar & Casas 2003; Governing Data 2013).

2.3 Effects of exposure: Black audiences

The implications of exposure to messages about racial and ethnic groups in the media are bound to the quality of the representations. For Black viewers, exposure to the unfavorable depictions that have been prevalent for decades in mass media offerings has been linked with undesirable psychological and social effects including deflated self-esteem among adults and adolescents (Tan & Tan 1979; Ward 2004) and reduced career aspirations (Gordon 2015). For example, Martins and Harrison's (2012) longitudinal

panel survey of elementary school children revealed TV viewing to be negatively associated with the self-esteem of Black, but not White, children. The authors suggest that this deleterious outcome for Blacks stems from viewing the unfavorable characterizations of their group that are commonly presented on television. More detailed examinations of this relationship support this assertion. Such research has found that specific TV viewing patterns are associated with particular esteem-based outcomes, such that the type of content (and the features of those depictions) affect the consequences for different dimensions of self-concept and esteem (e.g., Ward 2004).

Similarly, Gordon's (2015) survey-based research found that exposure to and identification with Black figures on TV and in music was associated with reduced academic performance and career aspirations among Black high school students. Additionally, perceptions of ability in science were negatively associated with the proportion of stereotypical depictions of Blacks in student's TV diet.

Importantly, research in this domain also indicates that exposure to constructive messages can prompt more auspicious evaluations of one's self-concept and views about one's group. For example, McDermott and Greenberg's (1984) research with Black 4th and 5th graders found a positive association between viewing Black family television programming and general self-esteem (though not racial esteem) among children with positive attitudes toward the Black characters depicted in the content. Lending some support to this finding, Stroman (1986) found a positive relationship between the self-concept of Black elementary school girls and TV exposure, with these girls overwhelmingly reporting holding favorable attitudes toward the Black characters they saw on television. However, esteem was not affected by either exposure to Black-oriented media or identification with Black characters.

2.4 Effects of exposure: Outgroup (non-Black) audiences

The influence of exposure to media representations of underrepresented groups on the beliefs and behaviors of outgroup members (typically, Whites) is well-documented (e.g., Mastro 2009; Punyanunt-Carter 2008). Depending on audience member's real-world intergroup contact (and their existing belief-systems), exposure to depictions of race and ethnicity has the potential to shape how diverse groups are viewed and the norms of treatment toward them. Again, the manner in which different groups are depicted is central to this relationship. For example, both long-term exposure and one-time exposure to negative portrayals of Blacks in the media have been found to be associated with unfavorable perceptions of Blacks in terms of criminality, educational attainment, intelligence, work ethic, economic standing, and even values (Dixon 2007; Ford 1997; Fujioka 1999; Mastro & Kopacz 2006; Peffley, Shields & Williams 1996; Tan, Fujioka & Tan 2000). Exposure to unfavorable representations is also linked with unsympathetic political positions and antagonistic views on diversity-related policies (e.g. Busselle & Crandall 2002; Tan, Fujioka & Tan 2000).

At the same time, exposure to more favorable characterizations, including both positive and counterstereotypical depictions, has been found to discourage stereotyping, prompt more favorable perceptions of Blacks, and encourage more sympathetic positions on diversity related policies (e.g., Fujioka 1999; Mastro & Kopacz 2006).

3 Latino Americans

What content analytic evidence (and everyday experience with mass media) continuously reveals is that advances or improvements in the quality and nature of portrayals for one group do not translate into positive changes for other groups (and vice versa). Accordingly, it is essential to understand the unique trajectory of media representations of distinct, diverse groups to get a sense of inclusion and/or isolation, mistreatment and/or improvements over time and across genres.

3.1 Quantity of portrayals

At 17.6% of the U.S. population (U.S. Census 2015) Latinos comprise the largest ethnic minority group in the United States. Yet, Latinos are presented only infrequently across the media landscape. When it comes to television, Latinos have been severely underrepresented for nearly six decades (Tukachinsky, Mastro & Yarchi 2015; Mastro & Sink 2017). In fact, the only period during which Latinos were presented on TV at a rate proportionate to their population in the U.S. was in the 1950s: 3% of the characters on primetime TV and approximately 2.4% of the population in the U.S. Since then, although the Latino population has continued to grow, the number of Latinos on TV has stagnated and even dropped during some decades. Indeed, in the 1980s, Latinos comprised 8% of the U.S. population but represented only 1% of characters seen on television (Gerbner & Signorielli 1979; Greenberg & Baptista-Fernandez 1980; *New York Times* 1988). This discrepancy worsened in the 1990s, as Latinos rose to 11% of the U.S. population but idled at approximately 1.5% of the TV population (Mastro & Behm-Morawitz 2005). The 2000s saw a modest rise in the number of Latinos on TV to a range of between 3.86.5% (Children Now 2004; Mastro & Behm-Morawitz 2005). However, this rate of representation remained well below Latino's 13% proportion of the U.S. population (U.S. Census Briefs 2010). Today, Latinos constitute a mere 3% of the TV population (Mastro & Sink 2017). Research additionally indicates that Latino men have all but vanished in recurrent roles on television, with Latinas more likely to be found in recurring parts on primetime (Negrón-Muntaner 2014).

Only a handful of quantitative content analyses have explored the numeric representation of Latinos in other forms of media. This research indicates that the persistent underrepresentation facing Latinos on TV also exists in other platforms,

including film and video games. For example, in their analysis of top grossing films across 11 countries, Smith, Choueiti, and Pieper (2013) found that Latinos made up only 1.6% of characters. Further, Knowlee and colleagues' (2001) work revealed that Latinos totaled only 2% of the characters in the top-selling video games (across seven major consoles) and that all these characters appeared in sports games. This finding is consistent with results from Williams, Martins, Consalvo and Ivory (2009) who found that only 2.7% of the characters in the 150 top-selling video games were Latino, none of whom were primary characters in the games.

3.2 Quality of portrayals

When portrayed on primetime television, Latinos have historically appeared in a limited range of stereotypic roles, including objects of ridicule, criminals or law enforcers, and objects of sexual appeal (Mastro & Behm-Morawitz 2005). In roles related to ridicule, Latino characters are the focus of demeaning humor and are typically portrayed as lazy, subordinate, unintelligent, and unable to effectively speak English (Mastro & Greenberg 2000). Roles tied to criminality exist on both sides of the law, with Latino criminals characterized as dishonest, disheveled, young, and aggressive (Berg 1990). On the other hand, law enforcers are honest, intelligent, and respected (Mastro & Behm-Morawitz 2005). When depicted as sex objects, Latino characters are defined by their hot-tempers as well as their sexual attractiveness and sexual aggressiveness (Berg 1990). Finally, Latinos are rarely seen in high status roles in the media and are more likely than other racial or ethnic groups to be portrayed in service roles (Children Now 2000). Although evidence does indicate that some of these stereotypic characterizations are fading from the television landscape, (Mastro & Behm-Morawitz 2005), research also reveals that Latinos continue to be depicted as inarticulate and with accents (Mastro & Sink 2017).

Given that many of the most common archetypes on TV were derived from early film depictions, it is unsurprising that representations in film are not altogether different from those on television (Wilson, Gutiérrez & Chao 2013). For example, images linking Latinos with comedic simplemindedness or with criminality trace back to films of the early 1900s, wherein Mexican men were persistently presented as untrustworthy bandits or dimwitted buffoons (Berg 1990; Trevino 1985). Outrage over these characterizations, largely from Mexican and South American audiences for U.S. films, led to a movement away from these destructive depictions. The dominant characterization that emerged in their place was of Latinos as attractive but hot-tempered objects of romantic and sexual desire. This Latin lover representation (for both men and women) was wildly popular and quickly became a staple in films of the mid-1900s (Trevino 1985). The early film era also propagated images of Mexican men as lazy peasants or peons, particularly in the genre of western films (Trevino 1985).

Currently, research indicates that despite the success of a handful of Latino/a superstars, portrayals of Latinos in film continue to be constrained to these limited and largely unfavorable stereotypes (Negrón-Muntaner 2014).

When it comes to video games, although concerns regarding this medium's tendency to promote racial stereotypes (Leonard 2006) may be somewhat overstated, they are not entirely unwarranted. Certain genres (e.g., urban/street) do appear to capitalize on the exploitation of racial, ethnic, and gender stereotypes (e.g., Everett & Watkins 2008). However, there is insufficient research (and a deficiency in Latino characters) to determine if this pattern generalizes beyond this sub-genre. Content analyses have also revealed that only 2% of heroes in video games are Latino (Knowlee et al. 2001). Further, despite the fact that sports-related games contain the largest number of Latino characters, little is known about the manner in which Latinos are characterized within this popular medium.

Last, research has examined depictions of Latinos in the news. Although limited, this work indicates that Latinos are rarely represented and when they are covered, it is nearly exclusively in immigration-related stories (Dixon & Williams 2015). Within this coverage, the emphasis is disproportionately centered on illegal (vs. legal) immigration and on undocumented immigrants (Chavez, Whiteford & Hoewe 2010). Further, not only does the rate of coverage exceed real-world estimates, but undocumented immigrants are also profoundly overrepresented as criminals (outside the context of immigration) compared with Department of Justice crime statistics (Dixon & Williams 2015). Immigration news focuses predominately on Mexicans and frames this group as a threat to the economic, moral, and physical safety of U.S. citizens (see Atwell Seate & Mastro 2015).

3.3 Effects of exposure: Latino audiences

Considering the unfavorable portrayals of Latinos found across U.S., English-language media, it should come as no surprise that exposure to these depictions have been found to have a harmful effect on Latino audience members. For example, Schmader, Block, and Lickel (2015) experimentally tested the effects of exposure to stereotypic film depictions of Mexican Americans (both comedic and dramatic) on Mexican American audiences. For participants who highly identified with their ethnic group, even when the content was considered entertaining, viewers found these depictions to be demeaning and damaging to their performance and social self-esteem. In addition, exposure to these depictions weakened positive implicit attitudes towards Latinos, in general. Rivadeneyra, Ward, and Gordon (2007) found comparable results with their survey-based research on exposure to negative portrayals of Latinos. Their findings demonstrated that Latinos who highly identified with their ethnic group were negatively affected by exposure, including harm to their appearance and social esteem. Findings from Atwell Seate and Mastro (2015)

yielded comparable results. More specifically, in their experimental examination of the effect of negative TV news coverage of Latinos on Mexican American audiences, they found that exposure harmed Mexican American viewers' perceptions of their ingroup's entitativity (i.e., perceptions that one's group is coherent and effective). Notably, McKinley, Mastro, and Warber (2014) found that Latinos exposed to *positive* depictions of themselves in the media reported higher levels of appearance and social esteem and were more likely to favor their ingroup. Taken together, these results underscore the importance of favorable messages about one's group in the media.

Alongside English-language media, there are also several Spanish language networks in the U.S. which provide a distinct set of characterizations and narratives for Latino audiences (e.g. Telemundo, Univision, UniMás). Although not without criticism, Spanish language media in the U.S. offers more diverse and respectable portrayals of Latinos for Spanish-speaking audiences. As such, Latinos are likely to find content which offers positive cultural representations (Ortiz & Behm-Morawitz 2015). Currently, only limited research exists which examines the effects of exposure to this content on Latino audiences. Subervi-Velez and Necochea's (1990) pilot study of 117 Latino children explored the implications of exposure to English-language and Spanish-language TV on perceptions of self. They found no effect of either English or Spanish language television use on Latino adolescents' self-concept.

More recently, Ortiz and Behm-Morawitz (2015) surveyed 209 Latino adults and found that, whereas English-language television viewing was associated with elevated beliefs in prejudice and discrimination against Latinos in the U.S., this was not the case for exposure to Spanish-language programming. Given the proliferation of Spanish language media offerings in the U.S., much more comprehensive research is needed to illuminate this relationship.

3.4 Effects of exposure: Outgroup (non-Latino) audiences

Consistent with the research on exposure to unfavorable depictions of Blacks, consuming negative and stereotypic messages about Latinos has a harmful influence on the beliefs and behaviors of Whites (and other non-Latinos) including: (a) prompting unconstructive emotions about and judgments regarding Latinos, (b) encouraging dispositional attributions, (c) decreasing support for policies sympathetic to Latinos, and (d) generating active and passive harming behaviors (Mastro 2003; Mastro, Behm-Morawitz & Ortiz 2007; Mastro & Kopacz 2006; Tukachinsky, Mastro & Yarchi 2015). Research indicates that these effects can emerge as a result of both long-term media use as well as a single media exposure. In addition, higher levels of media consumption as well as limited real-world contact with Latinos both exacerbate these relationships (e.g., Mastro, Behm-Morawitz & Ortiz 2007).

Again, however, the media's influence is not limited to harmful outcomes. Research indicates that exposure to favorable media portrayals of Latinos can reduce negative stereotyping and have a positive effect on intergroup attitudes. Indeed, even a one-time exposure to favorable Latino characterizations has been found to improve White's perceptions about Latinos (Mastro & Tukachinsky 2011).

4 Native Americans

Native Americans and Alaska Natives (not multi-racial) comprise 1.2% of the U.S. population (U.S. Census 2015). When it comes to media depictions, they are nearly non-existent. An analysis of 12 primetime TV seasons spanning from 1987 to 2009 identified only 2 unique, recurring Native American characters out of a sample of 2,336 regular characters (Tukachinsky, Mastro & Yarchi 2015). When they are depicted in the media, cultural and linguistic diversity are ignored (Tan, Fujioka & Lucht 1997); this, despite the fact that there are more than 500 federally recognized Native American tribes in the U.S. The few studies that have documented the manner in which Native Americans are depicted across media indicate that they are typically characterized in historical contexts, as spiritual, as people with health or social problems, as mascots, in association with casinos, and in "traditional" garments and headdresses (Fryberg 2003; Fryberg et al. 2008; Tan, Fujioka & Lucht 1997).

4.1 Effects of exposure: Native American audiences

For Native Americans, consuming the limited and highly unfavorable characterizations of Native Americans that are offered by mass media has been linked with a number of undesirable psychological outcomes. To illustrate, Fryberg, Markus, Oyserman, and Stone (2008) found that exposure to stereotypical media depictions of American Indians depressed the appearance, performance, and social self-esteem of American Indian audiences and harmed perceptions of community worth. Further, their work revealed that viewing negative representations of Native Americans in the media constrained achievement-related possible selves (i.e., what one hopes to become).

4.2 Effects of exposure: Outgroup (non-Native American) audiences

Empirical studies exploring the impact of overall media exposure on non-Native audiences' perceptions about and behaviors toward Native Americans have found

no relationship (see Tan, Fujioka & Lucht 1997). As Tan and colleagues (1997) argue, however, the number of portrayals may simply be too few to pose an influence.

5 Asian Americans

Only scant quantitative content analyses have been conducted which examine depictions of Asian Americans in the media or the effects of exposure on audiences. As such, it is difficult to offer much detail when it comes to medium-specific findings or the implications of exposure for Asian or non-Asian consumers.

Currently, Asian American and Pacific Islanders make up 5.8% of the U.S. population (U.S. Census 2015) and 3.8% of the characters appearing on primetime television (Mastro & Sink 2017). It is common to find Asian media characters linked with technology, math, science, strong family values, a strong work ethic, and in roles that exemplify the “model minority” stereotype (Mastro & Stern 2003; Taylor & Stern 1997; Yuen et al. 2005). This stereotype, meant to highlight a racial/ethnic group’s achievements (in this case, certain Asian Americans), can: (a) create extraordinary pressure to meet the stereotypic norm; (b) encourage exclusion across groups; and even (c) lead to political marginalization as the diversity of this population and its varying needs go unrecognized (e.g., Taylor & Stern 1997; Zhang 2010).

In addition, Hamamoto’s (1994) comprehensive assessment of television programming spanning five decades found that, whereas Asian American characters exist, the preponderance of images perpetuate racial stereotypes. More recent research reveals much the same, indicating that Asian women are commonly portrayed as either overly humble, obedient, and exotic – or – as ruthless, sexually seductive “dragon ladies” (Lee & Joo 2005; Yuen et al. 2005). Asian men are often characterized as effeminate, asexual, and nerdy – or – as one-dimensional cunning villains and martial artists (Yuen et al. 2005). Finally, when not represented in these limited ways, Asians are routinely depicted as foreign or simply “other” in terms of norms, culture, and the like (Lee & Joo 2005; Park, Gabbadon & Chernin 2006).

5.1 Effects of exposure: Asian American audiences

The research addressing media effects among Asian American audiences has focused more on how this group uses media than on how the content affects them. For example, Abrams (2010) applied insights from research and theorizing in the domain of social identity gratifications to identify and understand Asian Americans’ media usage tendencies. The study revealed that television selection for Asian Americans, especially those that highly identified with their ethnic group, was focused on identity gratification, or seeing oneself portrayed in media narratives.

Asian Americans with lower levels of identification with their ethnic group viewed television for escapism and were not strict consumers of programming that showcased Asian American characters. Consistent with these results, Sun, Liberman, Butler, Lee, and Webb (2015) found that for many Asian Americans (Asian American youth, in particular), digital and social networking sites that provide more positive images and narratives regarding Asian American are a source of alternative media.

5.2 Effects of exposure: Outgroup (non-Asian) audiences

Few studies have examined the influence of media use on non-Asians' stereotypes about and behavioral intentions regarding Asian Americans. Generally, this work indicates that media exposure is associated with stereotypic views about Asian Americans, including perceptions of Asians as nerdy, intelligent and academically successful, and socially alienated (Zhang 2010). Further, television exposure has been associated with decreased intent to interact with Asians.

6 Arab and/or Middle Eastern Americans

Very few empirical studies have examined Arab and/or Middle Eastern depictions in the media. The most recent assessment of television is from the 2003–2004 season (Children Now 2004). In that study, Arab and/or Middle Eastern characters were found to constitute only 0.5% of the total primetime population and 0.3% of the characters appearing in the shows' opening credits. In nearly 46% of these roles, the characters were identified to be criminals. When it comes to film and news, Arab and/or Middle Eastern depictions revolve predominantly around themes of terrorism, with Arab and/or Middle Eastern characters in film lacking a particular nationality, accent, or dialect (e.g., Nashef 2011). An additional point of clarification is warranted here: Although the Islamic faith is widely followed in the Middle East, the majority of Muslims live in the Asia-Pacific region, with Indonesia being the largest Muslim-majority nation (Pew Research Center 2015) – a reality overlooked in the media, which commonly depicts Arabs, Middle Easterners, and Muslims as homogenous and interchangeable.

6.1 Effects of exposure: Ingroup (Arab/Middle Eastern) audiences

Very little is known about the media preferences or viewing patterns of Arab and/or Middle Eastern Americans, or, relatedly, the implications of exposure to media messages about ingroup members (cf., Saleem & Ramasubramanian, 2017). In one study, conducted outside of the U.S., Das and colleagues (2009) found that Muslims exposed to terrorist depictions of their group reported increased prejudice toward Europeans.

6.2 Effects of exposure: Outgroup (non-Arab/Middle Eastern) audiences

Media research addressing the implications of exposure to depictions of Arabs and/or Middle Easterners on outgroups is also sorely lacking. Given the nearly exclusive focus on terrorism in portrayals of this group, the bulk of the empirical studies in this domain have focused on this characterization – and more specifically on portrayals of Muslims as terrorists. This research consistently demonstrates that viewing this predominant narrative increases perceptions that Muslims are aggressive, and intensifies support for policies that harm the Muslim community, including both military action in Muslim countries as well as support for harsh public policies that target Muslims in the U.S. and internationally (Saleem et al. 2015; Saleem, Yang & Ramasubramanian 2016). Research in the context of video games finds comparable results, revealing that playing “Arab terrorist” games increases both anti-Arab attitudes as well as perceptions that Arabs are aggressive, generally (Saleem & Anderson 2013).

7 Multiple ethnicities/intersecting identities

What may be apparent based on the research that has been addressed to this point is that the empirical studies examining issues of media and race/ethnicity tend to address only one group membership at a time (although this is not exclusively the case). Portrayals of Latinos may be examined (for example), but identities such as Black Latinos/as, LGBT Latinos, etc., receive little attention. Although there are legitimate and appropriate reasons for this practice (including homogenization in media portrayals and constraints in empirical research), the exploration of multiple identities and/or intersectionality is certainly the next important step within this area of scholarship. Intersectionality emphasizes the interconnected nature of social categorizations including race, gender, and class (Crenshaw 1989), and also recognizes the social divisions and social relationships that account for a marginalized group’s unique lived experiences (Anthias 2013). Accordingly, taking an intersectional approach to the study of media and race/ethnicity opens the door to a more nuanced understanding of the complexities within our social and mediated environment. Equally importantly, it lends voice to often overlooked communities.

8 Concluding thoughts

Despite limitations, important conclusions can be drawn from the overarching body of research examining issues of media and race/ethnicity. Foremost among these is that both the quantity and the quality of media representations are critical to

outcomes associated with media use, with effects varying in line with the nature of the characterization. That is to say, just as unfavorable messages can produce harmful intergroup outcomes, auspicious representations can improve intergroup dynamics in society. In addition, it is critical to recognize that media use has implications for both dominant and underserved groups. For marginalized groups, mainstream media use can lead to increased apprehension about experiencing bias and intolerance in society. For dominant group members, media use appears to be one factor contributing to outcomes associated with stereotyping, prejudice, and discrimination (in terms of both exacerbating and lessening these responses). Finally, for all consumers, exposure has the potential to influence the self-confidence, self-esteem, and aspirations of the viewers.

As acclaimed filmmaker Ava DuVernay poignantly notes, “There’s a belonging problem in Hollywood. Who dictates who belongs? The very body who dictates that, looks all one way” (Buckley 2016). Despite this reality, perhaps transformations in the nature of our media environment signal the potential for positive changes. The profound increase in traditional channels of media messages (e.g., cable TV offerings) alongside new and digital media offerings (and the associated ability for diverse communities to produce their own content) means that there are increased opportunities (although not yet realized) for media programming tailored to and featuring underserved groups in front and behind the camera (e.g., Kubey et al. 1995 ; Ramasubramanian, 2016). In light of this, it is imperative for the next phase of research in this area to more rigorously explore the experiences of diverse audiences, and to transition from the heavy focus on dominant group members.

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Katie Ellis

19 Media and Disability

Abstract: This chapter provides an overview of disability media theorisation, focusing on three interrelated research traditions – representation, employment, and access. While the discipline has tended to focus on the former – the representation of negative stereotypes of disability in the media – increasingly, digital media has seen new opportunities for critique within disability media in all three areas. The chapter situates disability theorisation within the scope of the humanities and social sciences by offering a redefinition of disability as both a form of social oppression and as a cultural identity. While disability is typically thought of as an individual’s medical problem that can be overcome by curing that individual’s damaged body, the social and cultural approaches locate disability as a societal reaction of inaccessible worlds, technologies, and negative attitudes.

The popular HBO television series *Game of Thrones* is used throughout the chapter to explore the key research traditions in disability media and communications. Within this mode of analysis, two strong traditions appear. First, the identification of stereotypes, and second the ways disability is used to structure narratives. The chapter concludes that disability, like the more accepted marginalised identities related to race, gender, and sexuality, is the result of social constructions.

Keywords: disability; representation; access; employment; *Game of Thrones*; marginalised identities; social model; culture

1 Introduction

Representing 15% of the population globally, people with disability constitute the largest minority group in the world (International Labor Organization 2017; World Health Organisation & World Bank 2011). However, this group continues to be discriminated against, personally blamed for this discrimination, and denied opportunities for social inclusion. The media plays a central role in both the social disablement and inclusion of people with disability. That is, while in terms of media representation, people with disability have been – and still are – subject to damaging stereotypes, the media can also act as a powerful agent of change.

In 2006 the United Nations presented the Convention on the Rights of People with Disability (UNCRPD) as a roadmap for change and a way to facilitate the greater social inclusion of people with disability in society. Media and communications feature heavily throughout the 50-article document, particularly with reference to media access and representation. Article 9 addresses accessibility, stating, “Parties shall take appropriate measures to ensure to person with disabilities access, and an

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equal basis with others, to the physical environment, to transportation, to information and communications, including information and communication technologies and systems....” Article 21 on freedom of expression and access to information encourages “the mass media, including providers of information through the Internet, to make their services accessible to person with disabilities.” Media representation is further addressed in Article 8, which states signatories will “combat stereotypes, prejudices and harmful practices relating to persons with disabilities” and “promote awareness of the capabilities and contributions of persons with disabilities” (United Nations 2006).

Despite these good intentions, disability has traditionally been represented in stereotypical and problematic ways by the media – and this continues today. Likewise, people with disability have been subject to exclusion from equal access to the media as a result of systemic inaccessible formats – from print newspapers to the internet – although the rise in digital media has seen this change slightly. Unlike other marginalised groups and identities, the “problem” of disability is located in the body rather than in social practices, lack of access, or negative attitudes. As such, disability is typically thought of as a medical issue – that is, it is within the domain of an individual’s personal problem to overcome through therapeutic intervention (Oliver 1990).

However, following critical disability-based work in the humanities and social sciences, disability is also slowly becoming more recognised as a socially located problem – one of inaccessible worlds, technologies, and negative attitudes. According to the World Health Organization:

Responses to disability have changed since the 1970s, prompted largely by the self-organization of people with disabilities, and by the growing tendency to see disability as a human rights issue. Historically, people with disabilities have largely been provided for through solutions that segregate them, such as residential institutions and special schools. Policy has now shifted towards community and educational inclusion, and medically-focused solutions have given way to more interactive approaches recognizing that people are disabled by environmental factors as well as by their bodies. (World Health Organisation & World Bank 2011)

Given the media-focused world we live in, media has the potential to play a powerful role in this change.

This chapter provides an overview of disability media theorisation, focusing on three interrelated research traditions – representation, employment, and access. While the discipline has tended to focus on the former – the representation of negative stereotypes of disability in the media – increasingly, digital media has seen new opportunities for critique within disability media in all three areas. I therefore begin by situating this disability theorisation within the scope of the humanities and social sciences by offering a redefinition of disability as both a form of social oppression and as a cultural identity. That is, while the social model of disability focuses mainly on people with disability’s lack of access to employment and therefore participation in the mainstream of society, and the cultural approach foregrounds the ways people with disability have been removed from mainstream society and culturally

dislocated, both agree on one common factor – that people with disability traditionally lack power in both of these domains.

Throughout the chapter, I use examples from the HBO television series *Game of Thrones* (*GOT*) to illustrate these core ideas of the social and cultural models of disability. Contextual analysis of this television series allows for a consideration of the position of disability in society and media, illustrating the research histories of disability media studies via the aforementioned themes of representation, employment, and access. *GOT* is essentially a show about power – who has it, who doesn't, and how to get it (Harvey & Nelles 2014). The series begins with culturally unambiguous heroes Ned Stark and his son Robb. However, following their brutal murders – and that of Robb's mother Catelyn Stark – the show puts forward more ambiguous heroes, and features several characters with disability, most famously Tyrion Lannister (Ellis 2014, 2015; Harvey & Nelles 2014). Here, disability and difference is used to communicate who the heroes of this series are:

[*Game of Thrones*] indicates whom we should be rooting for by turning its protagonists into underdogs and misfits. Jon Snow is a bastard exiled to the loneliness of the Wall; Brienne of Tarth is mocked for her size and androgynous appearance; even the Hound, formerly depicted as a brutal thug, has grown more complex, now that we know the abusive roots of his scarred face. (Harvey & Nelles 2014)

Indeed, as the series progresses, these misfits and “cripples, bastards and broken things” become even more central to the narrative and are embraced by the audience. The series offers an important transgressive reappropriation of typical disability media representation, albeit not without some flaws, and recognises that disability is, to use Rosemarie Garland-Thomson's words, “one of the most universal, fundamental of human experiences” (Garland-Thomson 2002: 57). I conclude the chapter by suggesting new research approaches in the study of disability and media that are opened by putting disability at the centre rather than the margins of media and communications.

2 A redefinition of disability as a social and cultural construction

Disability has historically been viewed from a number of different perspectives, social, cultural, and sentimental. The oft-cited social model of disability recognizes that disability has had three distinct stages, each specifically tied to industrial and economic contexts. In each stage, the relationship between the person with an impairment, the industrial context, and the associated technological and/or community support create disability. In the first stage, during the feudal era, people with disability existed on the fringes of society and were usually supported by their families or communities.

They could work within the family unit using small machinery adapted to suit their physical needs. However, with the assembly line demands of the industrial revolution, people were no longer able to adapt their machinery as the effectiveness of the assembly line depended on several people being able to use the same machine without modification. This led to the second stage – the emergence and consolidation of both the concept of able-bodied normality and the notion of disability dependency.

Writing during the early 1980s, disability activist Vic Finkelstein envisioned a third stage of disability to correspond with the advent of the information age where, once again, individual physiques could be accommodated in the work environment via technologies – such as Braille keyboards allowing people who are blind or with vision impairments to type (Finkelstein 1981). In later years, these enabling possibilities of information and communication technologies have been recognised as facilitating a more inclusive work structure (Roulstone 1998). However, digital disability and inaccessible online environments have also been recognised as perpetuating the disablement established during the industrial revolution (Ellis & Kent 2011; Goggin & Newell 2003). This third stage of the social model provided the basis of moves towards greater social inclusion of people with disability in the UK. This had its roots in the 1960s – when disabled people started to organise radical activist organisations as they began questioning their place in society, rethinking the causes of disability, and debating the reasons for the current social position of people with disability – and increased throughout the 1980s and 1990s, eventually becoming influential internationally.

One such organisation was the Union of Physically Impaired Against Segregation (UPIAS). According to Finkelstein, a key figure in the establishment of this social model of disability via the activities of the UPIAS, the organization began to openly debate key ideas – such as “why we were in this situation” – from a tragedy and social perspective. Finkelstein articulates the debate as follows: “Either our tragedy is that the impairments we possess make us incapable of social functioning [or] our society is so constructed by people with capabilities for people with capabilities and it is this that makes people with impairments incapable of functioning” (Finkelstein 2004: 15). Finkelstein goes on to explain that while the tragedy of impairment was accepted on a personal level, the group agreed “at the social level it is the construction of the social and physical environment that disables us” (Finkelstein 2004: 15).

As a result, the UPIAS focused their attention on social inclusion and emancipation, their contention being that impairments were not the problem, rather that oppression was a result of society’s response to people who had impairments. Drawing on UPIAS’s ground-breaking ideas, UK academic Michael Oliver offered a redefinition of disability that became the basis of the social model of disability:

... we define impairment as lacking part or all of a limb, or having a defective limb, organ or mechanism of the body; and disability as the disadvantage or restriction of activity caused by a contemporary social organisation which takes little or no account of people who have physical impairments and thus excludes them from participation in the main stream of social activities. (Oliver 1996: 22)

Oliver's redefinition of disability posits a split between the body and society, locating disability within both social practices and bodily impairment. He argues that disability – as a restriction of activity placed on top of a person who has an impairment – is evident in the built environment (inaccessible buildings), prejudicial attitudes (overt discrimination), and inflexible organisational policies. This so-called social model of disability therefore begins to question and critique the previous models of individualisation and medicalisation of disability, and encourages us to consider disability from a different perspective.

Finkelstein and others have also highlighted media and communications as an important factor in this social disablement of people who have impairments. For example, Finkelstein illustrated the concept of social disablement via an early thought experiment. A group of wheelchair users create an imaginary society consisting only of people with impairments living in an environment structured to suit their needs, for example, ceilings lowered and doorways widened. The way the society is built appears natural and normal because it is accessible to everyone who lives there. However, when a few non-wheelchair users visit the community and decide to stay, it is this group who become socially disabled by an environment and social attitudes that do not consider them to be normal. In addition, they never appear on television or in newspapers, since the media projects the species-typical image as people who use wheelchairs. When they begin knocking their heads on the low ceilings and doorframes, rather than create accessible environments, the community pathologizes and medicalises them by fitting them with special helmets. In turn, it becomes difficult for those wearing helmets or displaying bruises to find work and they become impoverished. As Finkelstein explains, the social disablement of these imaginary non-wheelchair users can be located solely within the way society is structured, including, importantly, exclusion from media representation (Finkelstein 1980).

Media representation of disability is an important issue. For example, while disability theorists and commentators accuse the news media of perpetuating a limited number of news frames of disability, which in turn shape audiences' social perceptions of the reality of disability, when it comes to entertainment media the role of these characters becomes more about what they represent with regards to other characters. Mitchell and Snyder explain that, in the entertainment arena, disability functions as a narrative prosthesis, “a character-making trope in the writer's arsenal, as a social category of deviance, as a symbolic vehicle for meaning-making and cultural critique, and as an option in the narrative negotiation of disabled subjectivity” (Mitchell & Snyder 2000: 1).

This can be illustrated by the first season of *GOT*, particularly in relation to different character reactions to the role of Bran Stark, son of Ned and Catelyn Stark. Bran sustains a spinal cord injury when Jamie Lannister throws him from a tall window after he witnessed Jamie having sex with his sister Cersei. As Bran falls into a coma, Cersei comments that there is “no mercy letting the child linger in such pain”, while Jamie maintains “even if the boy lives, he'll be a cripple, grotesque, I'd take a good

clean death any day.” Jamie’s brother Tyrion, however, disagrees – he believes death to be so final that, while he has life, Bran still has possibilities. Tyrion, as we later discover, was almost killed at birth by his father Tywin who struggled with the reality his son was a dwarf and therefore not physically perfect. Nevertheless, when Bran does awake, he tells his brother Robb he’d “rather be dead.” Bran’s sister Arya understands this – she views him in deficit terms and despairs that, as he can no longer climb nor ride a horse, he will never be able to realise his dream of becoming a knight.

The majority of the characters’ viewpoints outlined here reflect the notion that you are better dead than disabled, an idea often represented and perpetuated by both the news and entertainment media. Indeed, it is the dominant way of framing disability in media discourse. Yet *GOT*, while seeming to initially follow this pathway, then introduces an unusual perspective into this established media landscape – the notion that the environment can be changed to be more inclusive of people with disability. The character Tyrion Lannister is central to this critique. For example, when Tyrion learns that Bran cannot use his legs, he returns to Winterfell to present Bran with plans for a modified saddle to enable him to ride again, just like the saddle Tyrion himself uses. In this scene, nearly everyone is resigned to the fact that Bran won’t ride again. Moreover, they have also started to talk for him – they are starting to treat him as completely incapable, as a tragedy. Tyrion is the only character to directly address Bran and, as a result, is regarded with suspicion. When Bran comments that he used to enjoy riding, Tyrion explains, “with the right horse and saddle even a cripple can ride” and he presents plans for Bran to pass onto his saddler. Tyrion continues, “you must shape the horse to the rider” and assures Bran he will be as tall as any of them on horseback. The differentiation here is clear – whereas nearly everyone focuses on the tragedy of Bran’s impairment, Tyrion focuses on adapting the environment to enable Bran to continue participating in the activities he enjoys. Tyrion’s attitude reflects a more social model of disability in which both the environment and negative attitudes work together to create disability.

However, this model has received criticism for neglecting the relevance of impairments and for failing to recognise impairment effects. In particular, its lack of attention to culture – including representation, attitudes and intersectional experiences of disability and impairment – has been highlighted as a serious flaw in the model (Ellis 2015; Shakespeare 1994). The social model therefore prompted a more cultural model of disability, originating in the U.S. and connected to that country’s civil rights traditions.

Like the social model, the cultural model recognises the socially and culturally created restrictions forced onto people who have impairments. However, the cultural model addresses some of the critiques directed towards the social model’s neglect of impairment and culture, and proceeds from identity-based and literary approaches to analysis. This approach to disability recognises impairment as both human variation and a socially mediated difference. In addition, the cultural model overtly recognises the ways impairment can offer insight and self-reflection, and the ways it is a politicised identity. However, as David Mitchell and Sharon Snyder explain, people with

disability often remain culturally dislocated in spaces set out on their behalf, such as charity systems, institutions and asylums, academic disciplines, sheltered workshops, and medical documentaries (Snyder & Mitchell 2006). Although purporting to benefit people with disability, these locations exist as spaces where people with disability are deposited against their will and against their well-being. They argue that a clear division can be seen in the ways people with disability are culturally separated from non-disabled society, their freedoms limited, with the result being “active disenfranchisement from levels of participation and experience afforded to most other citizens” (Snyder & Mitchell 2006: 4).

Garland-Thomson has also made many significant contributions to the development of such culturally based work in disability studies. For example, in *The politics of staring: Visual rhetorics of disability in popular photography*, Garland-Thomson examines the ways photography has visualised disability under four visual categories – “the wondrous, the sentimental, the exotic and the realistic” (Garland-Thomson 2002: 58). The framework helped to establish the ways disability was influenced by cultural attitudes and the importance of evolving media and entertainment forms in this cultural construction. For example, while the concept of the gaze is familiar within media and cultural studies – particularly with reference to the power imbalance experienced by women onscreen (see Mulvey 1975) – Garland-Thomson argues that while women are subject to the gaze, people with disability are subject to a more intense form of looking: the stare. A power imbalance occurs when disabled bodies are stared at either in person or via imagery or the media, because a perception of difference is registered and impairments are given aberrant meanings. Staring focuses in on the disability and does not see past it, to the person as a whole. Garland-Thomson posits that staring is an attempt to neutralise our fear of disability, a universal human experience.

An example of this rhetoric can be seen in our first introduction to Tyrion Lannister in *GOT*. Various described as the imp, the halfman, and the dwarf of Casterly Rock, Tyrion evokes a gossip-like wonder amongst the Northerners. He is used to the stare and enjoys subverting it. As a comparison to the dominant and important position Tyrion comes to take on throughout the series and by the audience, a number of other peripheral characters with restricted growth are included at various intervals for comedic effect. For example, several dwarfs role play various famous battles as light entertainment at Joffrey and Margaery’s wedding. It is clear Joffrey engaged these performers in a power play against his uncle, to directly ridicule him. They are also an example of a narrative prosthesis as the scene is used to reflect on Joffrey’s cruelty and Olenna Tyrell’s motivations for having him killed.

Staring at people with disability has historically been both socially and culturally sanctioned and encouraged. Whereas once people with disability were hidden from public view, apart from as stuff of legends, this began to change in the nineteenth century with the emergence of the freak show (Garland-Thomson 2002: 56). Further popularisation in the Victorian era allowed the middle class to feel like protectors – the disabled poster children of various charity campaigns are a long-held example

of the sentimental rhetorical model. Leonard Kriegel described this imagery as the charity cripple, a character who mattered in both image form and in nineteenth century literature – not for who they were but for what they represented to other characters (Kriegel 1987: 330).

The advent of photography in the early twentieth century intensified this “social ritual” of staring at disability (Garland-Thomson 2002: 57). Photography was (and remains) particularly powerful as it allowed for staring to occur without interaction – staring could be prolonged and more involved, without accountability to the viewed, and could ultimately be used to manipulate the viewer (58). Garland-Thomson continues, “these pictures choreograph a social dynamic of looking, suggesting that disability is not simply a natural state of bodily inferiority and inadequacy. Rather, it is a culturally fabricated narrative of the body, similar to what we understand as the fiction of race and gender” (2002: 74). Fiona Kumari Campbell makes a further link to race and gender by offering a definition of ableism as discrimination against people with disability: “A network of beliefs, processes and practices that produce a particular kind of self and body (the corporeal standard) that is projected as the perfect, species-typical and therefore essential and fully human. ‘Disability’ then, is a diminished state of being human” (Campbell 2001). This type of interaction has become known as the sentimental model of disability. As Garland-Thomson explains, “The sentimental model lessens the figure being depicted by representing their need to be protected” and is bound up in the concept of stigma.

The emergence of television and cinema as an influential medium has also had an impact on how society and culture view the perceived stigma of disability. In his study of the way Hollywood cinema isolates people with disability, Martin Norden renames the “charity cripple” the “sweet innocent.” Typically a child or unmarried woman, the sweet innocent depends on other characters for their every need and are “perfect in every way except for the disability; respectful, humble, gentle, cheerful, godly, pure, and exceptionally pitiable” (Norden 1994: 33).

Returning to *GOT*, Norden’s definition of the sweet innocent perfectly describes princess Shireen Baratheon, a young girl afflicted with greyscale – a fatal infectious skin disease. Typically, in *GOT* when a character acquires greyscale they are exiled from their communities to colonies such as Valyria and quarantined and left to go crazy and die. Princess Shireen caught the disease from a doll given to her by her father Stannis Baratheon as an infant. Stannis was advised to exile her to Valyria to live out her days with the so-called stone men but refused to accept this was her fate and instead brought every maester, healer, and apothecary in to try to heal her.

The treatment worked, and while she was cured of the disease, her face was permanently disfigured, causing her mother to reject her and treat her coldly. Princess Shireen is constructed within the narrative as a sweet innocent, happy despite being locked in a tower, and interested in childlike pursuits such as storybooks. She patiently teaches Sir Davos to read when he is banished to the dungeons. However, ultimately, Shireen is burned at the stake by her parents, who believe that her death,

as a sacrifice of king's blood, will aid Stannis in winning the battle to become the true king. David Perry critiques this characterisation in an article which otherwise celebrates the representation of disability in *GOT*: “this poor, physically disfigured girl who's so good and pure and smart. Oh no, she's going to be killed; now we have to be really upset. That is the kind of writing I kind of hate.” (David Perry, cited in Ulaby 2017).

However, as media technology has changed, the focus on the stare, in wonder or in horror, has given way to a form of “admiration” rather than “amazement” (Garland-Thomson 2002: 61) with the recent emergence of the notion that people with disability are extraordinary for doing ordinary things. This has led to the widely-recognised media image of the “supercrip.” Supercrip media imagery emphasise the everyday achievements of people with disability as extraordinary, or inspirational. Yet, for Barnes (1992), these depictions devalue the everyday lives of people with disability and are designed to elicit respect from a non-disabled population. While often framed as a “positive” image of disability, supercrip characterisations continue to individualise disability and absolve society of the responsibility for ensuring access and inclusion. This representation has been widely recognised across all media forms and formats – from television, to movies, to newspapers. With reference to print news media, John Clogston described the supercrip as a media frame focusing on individuals “because of the physical characteristics of their disability.” Individuals are portrayed either as “superhuman” because of physical feats (for example rock climbing paraplegics) or “amazing” because they function “normally, in spite of their disabilities” (Clogston 1994: 47). More recently, Stella Young described the tendency of the media to frame disability as inspirational rather than ordinary as “inspiration porn” (Young 2012). Bran is sometimes interpreted as falling into this character trope. By becoming the three eyed Raven and surviving beyond the wall, Bran in fact becomes superhuman.

There are a number of different roles that the media plays with regards to the representation, acceptance, and normalisation of disability. One aspect that is recognised in all models is the importance of media, and several intersecting concerns are apparent through the history of disability media theorisation, particularly representation, employment, and access. These will be discussed below.

3 Disability media theorisation

Three approaches to disability and the media are evident throughout the history of disability media studies. First, the representation of disability contained within media content has been thoroughly analysed for disabling content. A related approach is the effects of these images on people without disability; however, this is less common. Second, following the introduction of anti-discrimination legislation during the 1990s, a brief cycle of research addressed the employment of people with disability in

media industries. Interest in this aspect of disability media has re-emerged recently in conjunction with 25th anniversary celebrations of the Americans with Disabilities Act. Finally, as the internet and digital media have solidified their dominance in our everyday lives, the theories behind equal access to and use of digital media are increasingly being prioritised.

3.1 Representation

Representations of disability in the media have traditionally been predominantly ableist and have therefore been recognised by several theorists as further contributing to the social disablement of people from this group. For Alan Gartner and Tom Joe, this approach to disability is reflected through history – “the blind soothsayer of ancient Greece, the early Christian belief in demonic possession of the insane, the persistent theme in Judeo-Christian tradition that disability signifies a special relationship with God. The disabled are blessed or damned but never wholly human” (Gartner & Joe 1987: 2). This approach is heavily influenced by the aforementioned cultural approach to disability developed in the US which draws on literary analysis.

Taking this further, a strong research tradition has argued that the media typically represents people with disability in two ways – as either victims or heroes (Ellis & Goggin 2015). Michael Oliver adds that mass media has significantly added to social disablement because people with disability are never presented as ordinary people with ordinary problems, they are always superheroes, villains, or tragic individuals (Oliver 1990). Colin Barnes’s 1992 study of disability stereotypes in the media further identifies eleven “durable” and “overlapping” stereotypes of disability (Barnes 1992), while Paul Longmore argues people with disability are only ever portrayed in three ways – as unable to adjust, as sexually abnormal, or as criminals (Longmore 1987). Gartner and Joe argue images of disability are in fact “disabling images,” created through an “interaction between the individuals’ conditions and the environments – both physical and attitudinal – in which they live” (Gartner & Joe 1987: 1). The widespread identification of such stereotypes is useful in establishing the prevailing cultural devaluation of the experience of disability and helps represent the first stage in the cultural analysis of disability (Mitchell & Snyder 2000).

GOT is in some ways a prime example of how media typically adhere to this devaluing, negative framework. For example, when Bran acquires his spinal injury, he also becomes a telepathic superhero, and eventually the three-eyed raven. His assailant, Jamie Lannister, is later punished with his own impairment when his enemies amputate his arm. The core character of Tyrion himself ascribes to all three stereotypes Longmore argues are fundamentally negative – criminality, adjustment, and sexuality.

However, *GOT* also ascribes to a social model of disability. Concentrating solely on stereotypes precludes the opportunity to explore these types of debates in television

narratives. Mitchell and Snyder, therefore, caution against the identification of such positive or negative stereotypes because representations are “bound to their own historical moment’s shortcomings, idiosyncrasies, and obsessions” (Snyder & Mitchell 2006). Tyrion, for example, is a white male and, while representations of disability in the mainstream media are recognising human rights issues and social disablement (for example in *Breaking Bad*, *Friday Night Lights*, *GOT*), these are still typically afforded only to white men.

While disability theorists identifying stereotypes hypothesise about their negative impacts, audience research into its tangible effects is not as common in disability studies. One study of nurses during the 1990s that found this group believed people with mental health conditions were a violent threat, despite personal and professional experience to the contrary (Philo et al. 1994). When Karen Ross interviewed audiences with disabilities, they also focused on this perpetuation of negative, damaging stereotypes (Ross 1997). There has also been limited research into the positive effects of disability media representation, with only a few studies demonstrating the positive impacts of television series’ regular main characters with disability – these characters include Chris Burke’s character Corky in *Life Goes On* during the 1990s (Hall & Minnes 1999) and Geri Jewell’s character Cousin Geri in *The Facts of Life* during the 1980s (Haller 2017).

Indeed, such positive disabled characterisations are scant in the entertainment industry, despite the fact that Cumberbatch and Negrine have long argued that it would take just one or two series regular characters with disability to significantly shift public perception (Cumberbatch & Negrine 1992). Yet it is interesting to note that, perhaps as a result of this systemic negative stereotyping of disability in the media, it is often unusual for audiences to identify with disabled characters, even if they are themselves disabled (Cumberbatch & Negrine 1992; Rodan, Ellis & Lebeck 2014). *GOT* subverts this trend. Tyrion Lannister is arguably performing this important role, and his character has amassed a strong fan following. In Season 4, during Tyrion’s trial for King Joffrey’s murder – a crime he did not commit – he makes an overt claim to disability:

I wish to confess. I wish to confess! I saved you... I saved this city... all your worthless lives. I should’ve let Stannis kill you all. I’m guilty... guilty... is that what you want to hear? [Tywin: “You admit you poisoned the king?”] No. Of that I’m innocent. I’m guilty of a far more monstrous crime. I’m guilty of being a dwarf. [Tywin: “You are not on trial for being a dwarf.”] Oh, yes, I am. I’ve been on trial my entire life. [Tywin: “Have you nothing to say in your defense?”] Nothing but this: I did not do it. I did not kill Joffrey but I wish that I had! Watching your vicious bastard die gave me more relief than a thousand lying whores! I wish I was the monster you think I am! I wish I had enough poison for the whole pack of you! I would gladly give my life to watch you all swallow it! I will not give my life for Joffrey’s murder, and I will get no justice here.

The character’s impassioned pleas prompted an equally vocal impassioned Twitter hashtag #freetyrion by *GOT* fans who hoped to see Tyrion exonerated. And, despite

the inaccessibility of this form of digital media for many people with disability – discussed later in the chapter – it’s likely many of the people participating in this online activism were disabled audience members. Indeed, while inaccessible online media may exclude some people with disability, it is also important to consider how some people with disability are actually becoming more engaged online (Elcessor 2016; Trevisan 2017).

3.2 Employment

When Barnes identified his eleven damaging stereotypes of disability contributing to the social oppression experienced by disabled people, he also identified several measures to improve the portrayal of disability in the media, including the active recruitment of disabled people in both behind-the-scenes and on-camera roles. As Barnes explains:

Where possible all portrayals of disabled characters in the media should be played by disabled actors. As it is no longer acceptable for white actors to play black people or men to play women, it should also be unacceptable for non-disabled actors to play disabled characters. Since there may be a shortage of disabled actors it is important that writers, producers, directors, agencies and advertisers put pressure on colleges and drama schools to take positive steps to recruit and train more disabled people for the acting profession. (Barnes 1992: 21)

Although Barnes offered this argument some 25 years ago, more recent research suggests little has changed – people with disability seeking careers in the media continue to experience exclusion, both from training institutions (Band & Freakley 2005; Band, Lindsay, Neelands & Freakley 2011; Okobokeye 2013; Sgroi 2016) and from employment in the mainstream media industries (Ellis 2016; Raynor & Hayward 2005, 2009; Woodburn & Kopic 2016). This is particularly problematic for actors with disability. They cite a widespread industry prejudice against them – they claim that often they are only afforded problematic or stereotypical roles (Norden 1994). As Raynor and Hayward explain (2009), “no matter what the role, having a disability was not considered an advantage, even when auditioning to play a character with a disability.” Studies show that this viewpoint is not just based on the actors’ perceptions. A study by the Screen Actors Guild found that less than half of 1% of dialogue spoken on television is by a person with disability (Raynor & Hayward 2005). Recent research by the Ruderman Foundation reported negative experiences in the industry, overt stigma and discrimination, fewer opportunities to audition, and a perceived increasing incidence of stunt casting or recognisable actors being cast in roles (Ruderman 2017).

Taking this concept of ableist casting further, any roles in which the character portrays a “disabled” person typically go to high profile, non-disabled actors who

can attract an audience – and who are then celebrated for virtuoso performances (Ellis 2016). This is reflected throughout the history of the Academy Awards – 16% of the winners in both best actor and actress categories (between 1927 when the awards began and 2012) won for a portrayal of a character with disability (Rodgers 2012). However, throughout this history, only four people with an obvious disability have received academy awards. Yet even receiving the award can be problematic. For one of these winners – Dan Keplinger, for best short documentary in 1999 – his award had to be accepted by able-bodied producers on his behalf due to the lack of wheelchair access to the stage.

Again, statistics report disabled actors' concerns. The Ruderman Foundation suggests disabled characters are portrayed by disabled actors only 5% of the time (Ruderman 2017). Jay Ruderman, the foundation's CEO, spoke out against this industry strategy when Alec Baldwin was cast in the lead role in the 2016 film *Blind*, calling it “the latest example of treating disability as a costume.” He made a direct comparison to the now universally unacceptable practice of using “white actors to portray black characters” (Ruderman 2017). However, his argument was broadly condemned by the *New York Post*, who maintained it was a threat to “the power of empathy and the possibility of transcendence” and argued that the practice of black face carried with it a cultural baggage that could not be compared with able-bodied people portraying disabled actors (Post Editorial Board 2017). Again, the recognition of disability as a cultural identity subject to discrimination is lacking in *The Post's* position.

Peter Dinklage, the actor portraying Tyrion Lannister, has spoken publicly about the discrimination he and other disabled actors face securing roles. Dinklage, who has received numerous awards for his portrayal of Tyrion, acknowledges that most of the roles available to an actor with his disability perpetuate damaging stereotypes. Academic Tom Shakespeare also reflects on the vocational possibilities afforded to him in his youth, “When I was growing up, performing was the default option for a dwarf with few qualifications. If your only chance in the job market is a boring clerical job, putting on the pointy hat looks like easy money for a bit of fun” (Shakespeare 2015). Dinklage made an early decision to reject jobs portraying such characters as “cute elves and buffoonish leprechauns” (Dinklage, cited in Lawrence 2015). He reflects that, “I had a code that I lived by and knew the things that made me uncomfortable, and that I was not going to take them. There are a lot of other jobs that pay the rent and I wasn't going to just see acting as a way to pay the bills, because it really didn't” (Dinklage, cited in Lawrence 2015).

When he was interviewed in 2000 as an unknown actor, he professed a desire to perform a greater range of roles, “I seem to play a lot of wisecracking, cynical characters... but what I really want is to play the romantic lead and get the girl” (Dinklage, cited in Blake 2000). However, it is by playing wisecracking characters such as these that he has made significant critiques of social disablement. For example, in the 1995 dark comedy *Living in oblivion*, his character Tito –an out of work actor – rejects a role in which he would appear in a dream sequence. Making a direct reference to the

“man from another place” dream sequence experienced by Cooper in *Twin Peaks* Tito identifies the ways dwarves are used in media for atmospheric purposes:

Have you ever had a dream with a dwarf in it? Do you know anyone who’s had a dream with a dwarf in it? No! I don’t even have dreams with dwarves in them. The only place I’ve seen dwarves in dreams is in stupid movies like this! “Oh make it weird, put a dwarf in it!”. Everyone will go “Woah, this must be a fuckin’ dream, there’s a fuckin’ dwarf in it!”. Well I’m sick of it! You can take this dream sequence and stick it up your ass!

Similarly, in 2003, Dinklage’s rich, successful, and angry children’s storybook author Miles Finch in *Elf* offers a biting critique of the clichéd elf and leprechaun roles available to actors of restricted growth. Indeed, even Dinklage’s Tyrion draws on this idea of breaking with traditional characterisations, while also carving out a new image of the leading man. Dinklage contends, “There is a different definition of the leading man now... It’s fantastic. You look at the leading men of the past and they are very different. Hollywood is finally opening the door wider to more realistic portrayals of who people are. It’s not just about beautiful Hollywood stars” (Peter Dinklage, cited in Lawrence 2015).

3.3 Digital access and uses

Access to information and shaping and remembering history is a key theme that runs throughout *GOT*. At several points throughout the series, characters such as Ayras, Sansa, Bran, Varys, Petyr Baelish, and Jamie comment about the ways their elders forced them to read and memorise details about the houses throughout the seven kingdoms. These complaints reflect those of the audience who often express exasperation at the volume of information they must retain to fully appreciate the universe of *GOT*. As a result, assistive technologies and alternative media formatting – ostensibly designed for people with disability – has proved invaluable to these mainstream media audiences who make use of closed captions to stay abreast of the narrative, particularly complicated names, confusing relationships, and shifting locations (Ellis 2014).

In addition, several characters with print disabilities are used throughout this series to problematise the notion of accessing and retaining information. A print disability refers to an impairment that makes it difficult or impossible to understand printed material. For example, Maester Aemon, who is maester to the Knight’s watch at Castle Black, is blind. Within *GOT*, maesters are scholars, scientists and learned advisors, and are sometimes referred to as “knights of the mind.” Ironically, as the person in charge of the ravens, Maester Aemon effectively controls the distribution of print communications, yet he cannot access this material himself. He even remarks to Sam, his steward, that while the library is stocked with thousands of books, his blind

eyes can't read them. Arguably, this is another example of the “blind seer” narrative trope utilised throughout history – where the sacrifice of sight prompts greater knowledge; however, by engaging Sam to read for him, Aemon is both engaging in interdependence and mentoring Sam to become a master himself. Sam is another underdog or misfit hero who becomes increasingly central to the narrative.

Jamie Lannister, a character revered for his physical strength and fearlessness, also has a print impairment. In Season 2 his father Tywin describes the way that, as a child, Jamie reversed letters in his head, making it difficult to learn to read, and revealing Jamie to be dyslexic. Tyrion, by comparison, although quite physically different from his brother, describes his mind as his sword and is often depicted in early scenes reading a book. While Jamie's dyslexia is constructed as a disability he overcomes throughout the series, evidence of its effects do appear at vital moments. For example, when Jamie writes Cersei a note about Marcella's death, he misspells the word niece, thus proving the authenticity of the note. Further, his ability to switch fighting hands has been interpreted as possibly due to his dyslexia. From an entertainment perspective, while these print impairments operate purely as a narrative prosthesis, they also offer the opportunity to reflect on the real-life affordances of digital media for people with print impairments.

Today digital technologies facilitate improved access to print information – if they are made accessible. Like the analogue world, the digital world is not always accessible to people with disabilities. For example, limitations in technology mean that many websites are still unable to be read by a screen reader. Inflexible practices, policies and procedures may prevent students with dyslexia accessing a spell checker to use in their university exams. As Goggin and Newell argue in the first major study of digital disability, “the Internet will not be fully accessible to all until disability is considered a cultural identity in the same way as class, gender and sexuality” (Goggin & Newell 2003). In *Disability and new media*, Ellis and Kent draw on Goggin and Newell's work to argue that the digital world is still being created in a way that perpetuates the ableism that already exists, despite all the opportunities digitisation could represent for people with disability to access information in different ways:

Information and content stored digitally should be able to be accessed in any number of ways to suit the user. Users should be able to choose from a range of different digital media – visually (as images, texts and subtitles), as sound (both as spoken word, music and a means of navigating objects in a real or virtual world), and also as touch (perhaps not yet as a fully-immersive replication of the feel and texture of the real world, but certainly through a Braille tablet). (Ellis & Kent 2011: 7–8)

Indeed, information can be easily accessed in different ways and even converted into a different format to facilitate access, as Finkelstein predicted of the third stage of disability. For example, closed captions provide written text of on-screen audio across the bottom of the screen to facilitate access to people who are D/deaf or hard of hearing, while audio description is an audio track describing visual elements to benefit viewers

who are blind or vision impaired. As media has become increasingly digitised, it is interesting to see that these alternative formats have become both more and less available. Alternative formats such as captions and audio description are increasing – both as assistive technology for the disabled population and due to their increasingly understood mainstream benefits (Downey 2008; Ellis & Goggin 2015; Kent et al. 2017; Merchant, Ellis & Latter 2017). As mentioned above, *GOT* is one example of a series where captions are an effective tool for many viewers. However, as Elizabeth Ellcessor argues, when they are unavailable, such as the historical unavailability of captioning on Netflix, it represents a “pervasive unwillingness to consider people with disabilities as a central audience” (Ellcessor 2011: 330). As people increasingly personalise their experience of television, preferring to binge watch rather than follow a weekly broadcast schedule, could these mainstream uses of alternative formatting provide an opportunity to put disability at the centre of media?

4 Conclusion

Throughout this chapter I used the popular television series *GOT* to explore the key research traditions in disability media and communications. Within this mode of analysis, two strong traditions appear. First, the identification of stereotypes, and second the ways disability is used to structure narratives. It is clear that disability, like the more accepted marginalised identities related to race, gender, and sexuality, is the result of social constructions.

Tracing the development of social and cultural approaches to disability media via analysis of *GOT* reveals the centrality of disability to popular media. It demonstrates the importance of disability to narrative cohesion and the importance of disability representation to the position of people with disability in society. *GOT*, as a key example of a new form of television, offers an opportunity to revisit Harold Lasswell’s foundational communication model introduced at the beginning of this collection. A disability approach to this model would posit non-disabled media institutions to say disability is located in a damaged body and to be disabled is to be less than human. It would continue, saying disability uses different media forms and formats – although the message is still the same – with the effect of creating a disabling society that discriminates against people with disability. As discussed throughout this chapter, disability theorists have recognised the way media imagery or messages are disabling to people with disability through the perpetuation of damaging stereotypes, limited representations, and overt discrimination.

What has, to date, gone significantly unremarked is the way the media itself is disabling or inaccessible to people with a variety of impairments. The above model fails to take into account the role of alternative formats such as audio description and captions in the delivery of television. How do blind people watch television, for

example, or read newspapers? How do D/deaf people listen to the radio and experience the audio component of audio visual media? And what happens when these alternative formats are made available to, and embraced by, the mainstream?

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Kirsten Drotner

20 Children and Media

Abstract: Focusing on main trajectories of development, this chapter analyses how children's relations to media have been researched within a mainstream effects paradigm, still dominating research and university studies in the United States and parts of Asia, and a more culturalist paradigm that has developed on the European continent from the 1980s on and taken root in many parts of the world. Examples are offered of key studies within each paradigm as a lever for identifying recurrent research issues and aspects of critique that have occupied scholars within the two paradigms. Finally, the chapter discusses major transformations in the research on children's relations to media, and it points to recent encounters between the two paradigms, encounters that are chiefly a result of deep changes in children's media practices. In briefly charting these transformations, the chapter illuminates how research on children's relations to media is ultimately deeply dependent upon what happens in children's own lives and in institutional ramifications that are not of their making.

Keywords: children and media, media panic, media research traditions, media effects tradition, interpretive media and communication studies.

This chapter reviews how children's relations to media are studied. This has interested media scholars since the emergence of media studies after World War I. To chart these relations is in a sense to analyse the transformations of the field itself and to identify "a microcosm of media studies" at large, as Dafna Lemish has cogently noted (Lemish 2013). Focusing on main trajectories of development, this chapter analyses how children's relations to media have been researched within a mainstream effects paradigm that still dominates research and university studies in the United States and parts of Asia; and a more culturalist paradigm that has developed on the European continent from the 1980s on and taken root in many parts of the world. I offer examples of key studies within each paradigm and identify recurrent research issues and aspects of critique that have occupied scholars within the two paradigms. Finally, the chapter discusses major transformations in the research on children and media and points to recent encounters between the two paradigms – encounters that are chiefly borne out of deep changes in children's media practices. These practices are touched upon to illuminate how research on children and media is ultimately deeply dependent upon what happens in children's own lives and in the institutional ramifications not of their own making.

The term children needs specifying. In most parts of the world, children's lives have changed dramatically over the past hundred years, and they still vary tremendously if viewed on a global scale. For practical reasons, children are defined here as individuals in the age band 0–18 years old, which follows the United Nations

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Convention on the Rights of the Child from 1989. It is acknowledged that age has not always been a key identifier of being a child and that the age limit of 18 remains contested across the globe.

The term media is equal in need of specification. Following James Carey, I define media as technologies of communication and as material and symbolic social resources (Carey [1989] 1992). They are concrete objects, often of an institutionalized and a commercial nature, that circulate messages in society. They are meaning-making and semiotic tools through which people relate to the world and to one another across time and space (Thompson 1995). Media encompass print, audio and visual channels whose signs (text, sound, image) are brought into alignment today because of their technological digitization.

This inclusive definition of media is important to hold on to, because researchers of children and media have focused on particular media at various points in time. This focus runs the risk of over-interpreting certain features in the relationship between children and media. Moreover, the definition provides a useful backdrop to mapping out the research traditions noted above. The effects tradition is based on an understanding of media as material conduits of messages by asking questions about what these messages are and who they impact. The culturalist tradition sees media as socially situated processes of meaning-making and asks questions about how meaning is shaped and shared under what circumstances. Finally, a wide-ranging understanding of media offers a foundation to understand how we may study current media cultures, where complex and global constellations of media, data, platforms and communication networks make up children's relations to media.

1 Why study children and media?

As noted, media scholars have always been interested in children's relation to media, and they are not alone. The gradual extension in modernity of childhood as a specific phase of life is linked with the development of media genres that are aimed at children, such as children's books and magazines (Drotner 1988, 2013). Although both modernity and childhood play out very differently across demarcations of class, gender, ethnicity and geographic locale, their historical co-existence is worth noting because it sets the stage for repeated outbursts of public attention to children and media, in turn, offer important ramifications for the types of issues that researchers address.

Public attention is often spurred by, and focused on, the latest media on offer, whether it is popular magazines and, later, comic books, film, television, computer games, mobiles and social network sites. Public expressions of interest are largely normative and display what Joli Jensen calls "discourses of optimism and pessimism". (Jensen 1990). These binaries range from positive claims that a (new) medium advances children's learning capacities, the formation of their personal character, and a well-rounded

world view on to negative claims that the very same medium catalyzes anxieties, causes health problems and generates narrow mindsets in children (Luke 1990; Drotner 1999).

Researchers are affected by public discourses, not just because these discourses are levers of selective research funding, but, more fundamentally, because adults researching children conduct exercises into their own future. The basic relations between adults and children inevitably involve issues of power, responsibility, authority, subversion and accept. These resonate as tacit or explicit ethical tenets in research as well as everyday life. Scholars may and should be reflexive about these issues as they may impact on their research interests, the types of research questions they find pertinent, and their research results.

2 Early days: Print media

Given public interest in children's relations to media, it is not surprising to find that these relations were intermittent objects of study before media studies developed into a demarcated academic field. Perhaps one of the earliest example of this interest is a study conducted by British journalist Edward G. Salmon in 1888. He surveyed the reading habits of children aged 11–19, and his results demonstrate an overwhelming popularity in inexpensive periodicals, penny-part adventures, and serialized romance (Salmon 1888). Salmon is appalled by the young readers' poor tastes and puts particular blame on middle-class parents for failing their responsibility as role models. The study is a precursor to approaches that are later professionalized within the effects tradition. It demonstrates how earlier studies of children's relation to media are deeply implicated with issues pertinent to public debate. But it equally reveals that, from very early on, investigations assumed credibility through quantification.

Since the late nineteenth century, librarians and literary scholars made intermittent examinations of children's literature by focusing on issues of representation and were guided by normative assumptions about taste and appropriate cultural fare for the young (Hunt 1991). Based on textual analyses, inferences are made about what is good for children and what measures should be applied to advance young readers' literacies. Although the literary legacy is rarely acknowledged, with its explicit interpretive approach, this strand of study is a preamble of a culturalist paradigm from the 1970s and onward.

3 Establishing mainstream research on children and media

Studying children's relation to media became institutionalized with the development of media studies after World War I in the United States, Great Britain and parts

of continental Europe. The main research approach developed as part of the social sciences, and it becomes known as the effects tradition (Lowery and DeFleur 1995). The effects tradition is based on two basic assumptions:

1. Media are conduits transporting content from sender to receiver. The process of transmission can be studied with a focus on its discrete elements
2. Children are perceptually and cognitively more malleable than adults and hence more vulnerable to what media have to offer. Their relations to media can be studied with a focus on the measurable psychological impact of media on the individual child.

The view on media must be understood within the social framework of its development. After World War I, issues of direct effect in the form of propaganda influencing public opinion were very much on people's minds. At the same time, media reached an increasing part of the population, particularly in industrialized and increasingly urbanized environments. Media became wide ranging cultural artefacts. With the huge popularity of film, they also became publicly visible. For example, in Great Britain and the United States, school-age children and adolescents made up 30% of cinema audiences in the 1920s (Richards 1984).

The media environment also impacts researchers' views on children. Film is an audio-visual medium, which spectators can decode in its most immediate form without formal training to decipher its codes. For the overall majority, the ability to read print media, needs some sort of introduction to its codes and conventions. Therefore, film (and later radio) immediately lends itself to an understanding of the young audience as malleable and under direct influence.

Early studies on film uncover both positive and negative effects on children. For example, in Great Britain, the first film inquiry was set up in 1917 by the National Council of Public Morals. The study applies experimental models and quantitative data to determine the impact of film with particular reference to their learning outcomes. The Council's 1925 report, *The Cinema in Education*, did not validate public accusations leveled against film for its ill effects (Marchant 1925). In fact, it put the blame for juvenile delinquency on social conditions (Richards 1984).

In the United States, the Motion Picture Research Council in 1928 commissioned a series of studies to be financed by the philanthropic Payne Study and Experiment Fund. The studies, known as the Payne Fund studies, focus on a range of potential impacts on children's retention of information and also on their emotional states, attitudes, and specific behaviours, including sleep patterns. Researchers apply mostly quantitative survey methods, such as content analysis of themes; but some researchers also include experimental designs, case studies, and in-depth interviews. The resulting 12 volumes, published in 1933 and 1934 under the umbrella title *Motion Pictures and Youth* and with a summary by Werrett W. Charters (1933), are among the most detailed investigations of movie-going. The main findings corroborate the findings of their British colleagues. Correlations of impact are found for particular

groups of children and particular genres, but researchers caution against simple causal effects and are at pains to include contextual factors in their analyses. In addition, the studies show that films are important to children, not so much because they directly emulate their content, but because films create interpretive frameworks for understanding their personal problems and aspirations.

These pioneering studies are important scientific signposts for later research. They lay out research designs that are still followed today by mainstream scholarship. Research questions are concerned with the psychological impact of media in terms of individual children's behaviour, attitudes and health, and children's are defined according to ages and stages. The methodologies applied are mostly quantitative in the form of content analysis of particular media genres and surveys of children's responses. The early studies are also important because they pave the way for granular analyses offering useful documentation, which can help amend the often binary claims found in public discourse. Finally, the early studies identify key issues in the relationship between children and media that are still relevant today and continue to occupy scholars: How do media affect children's behaviour, for example in relation to violence and aggression? How do media affect children's attitudes, for example to sex, gender, ethnicity and class? How do media affect children's physical and mental health, for example in terms of body image, obesity, anxiety and attention? In the following, we shall examine how two of these questions are studied, namely media impact on aggression and violence and media impact on attitudes to gender. These types of study are selected because they also illuminate important theoretical traditions in the research on children and media.

4 Studying media violence and aggression

Studies of the relations between violent or aggressive media content and children's violent or aggressive behaviour are based on social learning theory, which later expanded into social cognitive theory. It was first developed by Albert Bandura and his colleagues in the 1960s through experiments with children watching violent scenes from television programmes (Bandura 1977). The theory hypothesizes that children will imitate violent television content in real life because they emulate characters they can relate to in a positive way and behaviour that is rewarded. In this way, children come to adopt cognitive scripts that legitimate violence as appropriate behaviour in real-life situations. Empirical studies demonstrate that correlations exist between violent television content and violent behaviour, but the correlations are dependent on factors related to the perspective on violence (hero or villain, degree of realism) and to the viewer (age, personality, cognitive abilities) (Paik and Comstock 1994; Potter, 1999). While results are inconclusive in validating direct and long-term effects that are independent of contextual factors, this line of research continues to

be influential, especially in the United States and parts of Asia. For example, the latter is evidenced by many articles in *Asian Journal of Communication* (1990–); and it now also includes studies on computer game violence (Anderson et al. 2010).

5 Studying long-term socialization effects of media use

It is an often-repeated fact that children in the global North when they reach adulthood have spent more time with media than at school. Naturally, this situation raises questions about how media affect children's wider views on others and on the world around them. Cultivation theory was developed by George Gerbner and Larry Gross to address such long-term socialization effects. Borne out of social learning theory and the recurrent criticisms leveled against it to examine de-contextualized programme items, cultivation theory focuses on the cumulative effects of television on audiences' perceptions and attitudes (Gerbner et al. 1978). Gerbner and his colleagues argue that television reaches virtually everyone, has very low barriers of decoding content, and feeds on generic and easy-to recognize narratives – all of which lead to a mainstreaming of viewers' world-views (Gerbner et al. 1980). Cultivation theorists claim that this mainstreaming is particularly critical for children because children are in a process of learning about the world that differs markedly from adults and have less cognitive capacity than adults to imagine alternatives to what is immediately present (Gerbner et al. 1994).

Studies on attitudes to gender roles are among the many investigations on the long-term media effects on children's socialization. Studies find that the time spent with media is correlated to the degree of gender stereotyping in young audiences. For example, so-called “heavy” television viewers hold the most stereotypical attitudes to gender roles (Signorelli 2001). This finding is in line with the general assumptions underlying cultivation theory. Like their social learning colleagues, cultivation researchers are concerned with what they term media “exposure” and “screen time.” They also correlate the amount of media use to degree of impact: The more audiences watch, the more they are influenced. Unsurprisingly, this type of reasoning also underpins empirical investigations of how gender roles are portrayed in media content for children, particularly television. A key study on 20 years of cartoons aimed at children in the United States showed that boy characters are more likely than girl characters to be inventive, outgoing and problem-solving, while girl characters are more likely than boy characters to be attentive to relations and in need of assistance. Still, the authors also point to a trend towards gender polarization with a co-existence of very feminine/masculine characters and characters opposing these binaries (Thompson and Zerbinos 1995). In a more recent comparative study on children's television programmes across 24 countries, Götz and Lemish (2012) largely confirm these findings. They find that male characters are more likely than female characters to be

independent protagonists or antagonists, while female characters are more likely than male characters to be part of a group and conform to Barbie-like body images (Götz and Lemish, 2012).

Whether we analyze social learning theory, with its focus on short-term and direct effects of particular programmes, or cultivation theory, with its attention to long-term and more indirect or cumulative effects of media fare, no simple conclusions can be drawn on the effects resulting from children's relationship with media. A number of key questions are bundled together, making it virtually impossible to generalise from the vast number of studies at hand. Are effects determined in terms of causality or correlation? Are effects direct or indirect – are they short-term or long-term? Are effects seen in experimental surroundings or in natural settings? Do research designs prime findings of either prosocial or antisocial behaviour? If 'television' replaces 'media environment', Schramm, Lyle and Parker's conditional assertions about effects still seem valid:

For some children, under some conditions, some television is harmful. For some children under the same conditions, or for the same children under other conditions, it may be beneficial. For most children, under most conditions, most television is probably neither particularly harmful nor particularly beneficial (Schramm, Lyle, and Parker 1961: 11).

6 Critique of effects research

As noted, the effects tradition is the mainstream paradigm in studying the relationship between children and media, and "shorter term consequences of media use dominate the literature" (Wartella et al. 2016: 13). Such a dominance will inevitably have its opponents. Among the recurrent criticisms (see McGuire 1986; Cumberbatch 1989) are the following:

- Definition of media: Media are seen as neutral windows on the world, a view that obscures that media are signifying technologies of communication articulating, and not just transmitting and reflecting, views on the world. Thus, claims cannot be validated that more truthful or diverse representations should reflect real-world conditions; or, conversely, that too narrow content repertoires are imprinted into children's perceptions and views on the world.
- Selection of media: The continued focus on television obscures the multi-media environment that children have always occupied, and certainly engage with today. This selective focus lends itself to over-interpretation and cannot be applied as a basis of generalization to other media.
- Definition of children: A focus on "the child" in universalising terms serves to underestimate differences among children and to deny historical transformations of childhood.
- Theories about children: An individualist, cognitivist and developmental understanding of children brackets out explanations that cannot be referred back to differences in terms of age and developmental stages.

- Methodological choices: The preponderance of quantitative surveys and experiments lends itself to analyses where disaggregate entities are uncoupled from their actual contexts of use, thus lowering internal and external validity
- Researcher position: The media environment in the United States and normative assumptions there about childhood are naturalised as a basis of universalising claims that do not hold up to empirical scrutiny. For example, radio, not television, has been the most widely adopted medium in parts of Latin America and Africa until very recently; and on a global scale childhood plays out very differently with labour as a defining feature in many countries.

Some media researchers, while skeptical about actual methodologies and research designs in effects research, acknowledge that the question of media effects is at the core of media studies at large:

While it has proved difficult to demonstrate that the media does affect our interpretative frameworks, it is also difficult to construct an argument about the origins of these frameworks which does not involve the media, for the media have permeated most if not all aspects of everyday life (Livingstone 1996: 324).

Livingstone calls for studies of what she terms “the enculturating role of the media” by which she means “processes, which work over long time periods, and which are integral to rather than separable from other forms of social determination, [and] would ask not how the media make us act or think, but rather how the media contribute to making us who we are” (Livingstone 1996: 324).

7 The culturalist paradigm

A culturalist paradigm in studying children’s relation to media is established from the 1970s on as part of wider transformations in sociological and cultural research in parts of Europe, Latin America and the United States, transformations that also impact media studies. Generally speaking, these transformations are often politically motivated, and they set in motion critiques leveled against what is considered to be postivist paradigms of scholarship.

In media studies, culturalist researchers oppose the effects tradition which is regarded as a form of what Paul Lazarsfeld in 1941 labeled “administrative research” and defined as complementary to “critical research” (Lazarsfeld 1941). The culturalist paradigm adheres to the strand of critical research, and most researchers are explicit about their normative research interests in unmasking power regimes and in catalysing the expression of what they see as repressed voices. In studies of childhood, the culturalist paradigm is resonant with what becomes known as the new sociology of childhood (Qvortrup 1994; Corsaro 1997; James, Jenks, and Prout 1998). It

opposes existing studies of childhood marked by historical studies (Aries [1960] 1973) and social-psychological and cognitivist approaches focusing on individual development, such as we have seen it demonstrated in the effects tradition. Instead, children are defined as actors in their own lives which are studied as webs of situated practices formed around family, peers and everyday arenas such school, possibly work, and leisure. Still, the new sociology of childhood pays very little attention to the ways in which media play into children's arenas of practice and everyday routines.

From these historical junctures, culturalist research on children's relations to media is premised on two basic assumptions:

1. Media are signifying technologies of communication. Signs such as text, live and still images, and sound are the building blocks of media articulations produced and circulating in particular institutional contexts of power.
2. Children are active agents in the formation of their everyday lives. This agency extends to media which they appropriate as sense-making tools across a range of contexts.

These assumptions have clear implications for the theories adopted and for the research designs and methodologies applied. Micro-sociological strands and theories of everyday life underpin many studies (de Certeau 1988; Goffmann 1959; Lefebvre [1946] 1990; Geertz 1973). They also form intellectual backdrops to less media-centric approaches (Drotner 1993; Couldry 2009), and to a development of concepts such as domestication with Roger Silverstone as a key proponent (Silverstone and Hirsch 1992; Hartmann 2006). In terms of research designs, the culturalist assumptions about media and about children imply a focus on holistic research designs, that is designs that focus on naturalistic settings and allow the relationship between children and media to be examined through a combination of semiotic and social dimensions of analysis. As for methodologies, qualitative approaches gain ground in the form of, for example, critical discourse analysis, participant observation, individual and focus-group interviews.

Seen in relation to the effects paradigm, the culturalist paradigm implies a shift in researchers' focus towards:

- Processes: Studying audiences' meaning-making involves semiotic analyses that focus on how media construct affordances of interpretation, and how children turn these affordances into meaning-making practices. Media content cannot be reduced to what messages media convey.
- People: Studying media environments involves holistic research designs which illuminate group interactions, and their varieties, in naturalistic settings rather than individual impact.
- Practices: Studying mediated meaning-making environments involves processual methodologies whereby researchers uncover why children appropriate media the way they do. This is because processual methodologies allow researchers to follow children's interpretive flows and junctures, mapping complex, real-world conditions underlying immediate situations of use.

8 Culturalist studies: Issues of power, distinction and identity

A pioneering study, which is instrumental in shaping the culturalist paradigm, is Bob Hodge and David Tripp's *Children and television: A semiotic approach* (Hodge and Tripp 1986). They examine Australian children's interpretation of cartoons through a combination of semiotic and Piagetian analysis. Their findings document how children apply granular, and often subtle, interpretive repertoires of exploration and critique and how their interpretations feed into wider cultures of play (Hodge and Tripp, 1986). The authors also illuminate how children's talk when interviewed operate as a form of identity work, a methodological aspect that has since been taken up and developed by a number of researchers (e.g. Buckingham 1993).

As is already evident in Hodge and Tripp's influential investigation, few empirical studies of children and media within the broadly defined culturalist paradigm adhere to all dimensions of the paradigm as laid out above. Until very recently, most studies have focused on domestic environments (Jordan 1992; Facer et al. 2003), on single media or genres (Buckingham 1996; Kirkland 2017), and on either analytical dimensions of social practice (Ito et al. 2010) or on dimensions of semiotic interpretation (Wojik-Andrews, Nikolajeva 2017). Only a few studies encompass aspects of production in addition to the more prevalent aspects of texts and audiences (Wasko, Phillips, and Meehan 2001; Drotner 2003, 2004; Tobin 2004).

Children's widespread uptake of digital, portable and networked media for communication over the past two decades have spurred professional reorientations within the culturalist paradigm. The way in which mobile devices display a convergence of representational modes, media genres and communicative functions and uses make mobiles perhaps the clearest example of the range in contributions. These include youthful use of mobiles for play, for gendered fashion-mangement, and for parental and commercial surveillance to note just a few themes (Katz and Sugiyama 2005; Christensen 2009; Hjort and Richardson 2014).

As digital communication matures and the novelty of gadgets fades into everyday routines, it is evident that academic questions asked about children's relations to digital media continue along familiar faultlines of interest but with important new aspects to be addressed. Questions of power remain key to the culturalist paradigm, also in the complex and connected digital environment that children occupy today. Power relations continue to be examined both in terms of parent-child relations, differentials in terms of class, gender, ethnicity and geographical location. But the digital environment also catalyses new aspects to be addressed. These include children's dependence on highly popular data-driven social media platforms such as Google, Facebook and Microsoft, whose infrastructures and business models are beyond the insight and control of users.

Questions of social and cultural distinction also remain relevant in studying children's relation to media. Following Pierre Bourdieu ([1979] 1989), culturalist researchers have documented how children's media appropriations are important in cultural stratification processes where knowledge garnered about everything from toys to teen idols operate as forms of cultural capital in juvenile culture. Children's involvement with media culture does not merely generate a common ground of generational culture, it also operates in multiple ways to position the young within repertoires of taste. From the 1980s on, research findings documenting how children juggle taste repertoires are discussed in terms of style and within discursive binaries of high and low culture (Willis 1990). The digital environment continues these processes of distinction, but it equally transforms their implications. This is because some children's cultural capital, which they mostly acquire through out-of-school peer-networks, can be exchanged for material capital in an economy where certain media and information literacies are in high demand. As discourses of twenty-first century skills are selectively put into educational and occupational practice, some juveniles' leisured media skills become hard currency while others become devalued (Drotner 2008). Cultural distinctions of taste thus transform into occupational inequalities and the formation of what Ursula Huws terms a "cybertariat" (Huws 2003).

Questions of identity have perhaps been the most recurrent theme in culturalist research on the imbrications between children and the media. This is not least because the theoretical focus on micro-processes of interpretation and interaction easily materialises into granular, empirical examinations of how children's media engagements are interlaced with their being and becoming in the world. As already evident in Hodge and Tripp's work, analyses focus as much on *how* media play into the ways children's identities are shaped, performed and shared as on which types of juvenile identity can be detected. Again, the digital environment at once maintains and transforms the research questions asked about children's mediated identity work. Aspects to do with children's creative formation of identity through media production come to the fore in tandem with a lowering of the barriers for many children to express themselves through digital production tools. Young YouTubers, teen sexting and online zines are widely different examples of children's voice and of children's performance of identity work through digital modes of production. These diversities testify to a situation in which media scholarship needs to differentiate concepts of identity in order to fully capture such processes and their wider implications.

How questions of power, distinction and identity play out in children's digital environments is vividly illuminated in *The class* (Livingstone and Sefton-Green 2016). The authors follow a specific class of 13-year-olds in a socially mixed area of London, Great Britain, for a year in and out of school. Using interviews and participant observation across the students' everyday settings in addition to surveying their media practices and mapping their online and offline networks, the authors chart how their

informants navigate structural dilemmas facing children today through networks of connection and disconnection made across family, school and leisure. Some of these networks are facilitated by media, some not. Careful documentation of the ways in which media practices are enmeshed with, and centrally shaped by, socio-economic status, cultural capital, ethnicity and gender serves as a sobering alternative to claims of celebration and concern in public discourses about the implications of digitization for children in the twenty-first century.

9 Critique of culturalism

It is precisely in defining what these wider implications are that much critique of the culturalist research paradigm sets in. As we noted above, the paradigm is borne out of a view on children as active agents and media as meaning-making resources. So, an attention to children's voice and to their opportunities of expression is at the core of many academics' research interests. Critics claim that such interests easily slide into a conflation of activity, agency and power. According to David Buckingham:

There is a risk of adopting a rather simplistic 'child-centred' approach, which seeks to celebrate the sophistication of the 'media-wise' child, and to prove (endlessly) that children are not as gullible or as passive as they are made out to be. There is often an implicit assumption that if children are 'active', then they are somehow not going to be influenced by what they watch. Yet this does not necessarily follow: indeed, one could argue that in some instances to be 'active' is to be more open to influence – and 'activity' should not in itself be equated with agency, or with social power (Buckingham 2008: 227).

Related to the criticism of voice are arguments that culturalist researchers fail to address structural limitations in their focus on children's everyday processes of interpretation and negotiation. This type of criticism resonates with well-known binaries in media studies between a political communications tradition and more explicit interpretive approaches (Corner 1991). The critique has gained new impetus with digitization of mediated communication. As indicated above, children are affected by corporate platform architectures and algorithmic values in what José van Dijck calls "the platform society" (van Dijck 2016).

10 Transformations of the research field

The effects paradigm and the culturalist paradigm outlined above in many ways ask complementary questions, and so their combined answers would seem to offer a full picture of children's relationship with media. Yet, this full picture has not

emerged, and it is not likely to emerge in the near future. This is because the two paradigms in fundamental ways diverge in terms of their research interests and their epistemological foundations; so it is not merely a question of tweaking methodological approaches and empirical focal points in order to reach a more unified approach.

Despite these fundamental differences, the two paradigms share scientific trajectories in the field which are important to hold on to because they may offer future points of joint advancement. First, it is important to acknowledge that “children and media” now exists as a demarcated sub-field within the wider academic community of media studies. It has its own divisions and interest groups in international societies such as the International Communication Association, the International Association of Media and Communication Research, and the European Communication Research and Education Association. Important to this institutionalization has been the establishment in 1997 of a resource centre of global reach called the International Clearinghouse on Children, Youth and Media. It is a storehouse for information on research, policies and practices related to the sub-field, engaging in projects and conferences as well as publication of reports and themed yearbooks. Since 2007, the sub-field also has a scientific publication venue, *Journal of Children and Media*, which is one of the key points of scholarly dialogue across the effects and the culturalist paradigms.

Importantly, the past decade has seen a significant number of joint national and international research projects. The most comprehensive is the EU Kids Online, originally conceived and directed by Sonia Livingstone and now expanding into a global research network (EU Kids n.d.). This development indicates that researchers seriously begin to undermine the hegemony of the global North which has characterized the development of the sub-field charted in this chapter. In addition to institution-building within the field of media studies, children and media draw increasing interest from other fields such as anthropology, education, cultural geography and parts of the medical sciences. Still, interest and impact does not equal theoretical and empirical integration across these main fields.

While the relationship between children and media is of interest to media studies from the outset, and while many questions asked about this relationship remain the same over the years, the subfield has moved from the margins to the centre of both academic research, practice and policy-work over the past three decades. This is not least because digital information and communication technologies, and the commodified data streams underlying them, have become fundamental infrastructures that in many ways transform how societies, institutions and everyday routines are organized, connected and disconnected. This transformation means that children’s relationship with media are no longer relegated to the home or leisured peer practices here and now. Rather, the relationship is at the core of what children can do in future, who they can, and cannot, become – and hence what forms societies may take. This transformation, in turn, adds to adult responsibilities to help frame the routes to be taken and the ones to be avoided.

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21 Gender and Media

Abstract: This chapter discusses the development of studies of gender in mediated communication and its current status. It highlights the different generations of research and thinking. It discusses the early studies of media from liberal, radical, and socialist feminist perspectives that focus on the study of images of women. It depicts the next generation of scholarship about gender as a social construct. It highlights the discussions around the so called-post-feminism as well as addresses current topics in feminist media studies, including intersectionality, global feminisms, and gender and media policy. The chapter illustrates different approaches of the diverse field of gender and mediated communication by two specific examples: studies on television and on news content.

Keywords: gender, feminism, social movement, generations, representations, gaze, diversity

1 Ways of seeing: Complexity of the field(s)

Gender refers to the socially and culturally constructed sexual identity and its markers. When sexual differences become meaningful and ideological, we have moved away from biological sex to the concept of gender (O'Sullivan et al. 1994: 127). Given the constructed and ideological nature of gender, it is no wonder that the study of mediated communication, from representations to audiences, provides an infinite array of gendered foci for research.

This richness of the field is also a challenge. Gender and the media as a context for scholarship may well be as complex as the entire scholarly field of mediated communication. There are three main reasons for this.

First, scholarship and social movements around gender are interlinked. This connection has existed from the start in gender and media studies, and is ever more pertinent the more mediatized our lives become. Definitions of gender as a concept, and feminism as a political movement, are mediatized and frequently debated in public arenas. Consequently, some scholars choose to be public intellectuals who combine the roles of advocates and academic professionals. They study the media and use the media as a strategic tool.

Second, gender as a defining object of study can be applied to practically any field of research on mediated communication. Researchers have focused on the numbers of women and men as news journalists, as well as the roles of actors in news content. They have examined Harlequin novels as women's genre. They have looked at the intersection of gender and sexuality studies and examined queerness in media

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representations. They have discussed media visibility of feminist movements as well as media strategies and tactics of feminist activism. They have challenged media policy studies for gendered analyses. They have called for de-Westernization of the media and a gendered scholarly canon. These are just some examples of the breadth and reach of gender as a context for mediated communication.

Third, the field of gender and the media is in constant flux due to the rapidly shifting media landscape, as well as redefinitions of what gender means. New platforms and uses of communication technologies open up new research avenues, as do societal and cultural changes in gender identities and relations.

It follows that there are numerous ways of seeing, that is, depicting the context of gender for mediated communication. This begins with terminology. *Feminist Media Studies* and *Gender and Media Studies* are often used synonymously. (However, *Women's Studies and Media* is seldom used as a concept.) It is good to remember that feminism does not necessarily refer only to women (Dorer & Hipfl 2013). It does indicate a focus on power relations and women, and it connects to the political movement of the same name. Gender is a more inclusive term that can encompass, for instance, *Men's Studies* and *Queer Studies*. Yet, gender is not solely a scholarly concept, either. For instance, *gender mainstreaming* as a strategy is used in policy-making to indicate that a policy's implications for men and women will be considered when drafting it (e.g., Parpart 2013). Basic terminology shows the plurality of theoretical perspectives, methods, and epistemologies that characterize this field, as well as the different understandings of the impact of mediated communication in identity formation and related power relations (e.g., Gill 2007: 7–8).

This plurality of theoretical perspectives and understandings in the field also means also means that the context for gender and media is rapidly changing, and scholarship is constantly evolving conceptually. It is thus not surprising that in addition to journal articles and monographs, compilation volumes of influential scholarly texts are very common for the field (e.g., Kearney 2011; McLaughlin & Carter 2013; Carter, Steiner & McLaughlin 2015; Mendes 2017). Furthermore, several overview analyses of the state of feminist media studies, and gender and media research, have emerged in the past years, aiming to capture this rich, dynamic field (e.g., Buonanno 2014; Byerly 2016; Dorer & Hipfl 2013; Sarikakis et al. 2008). It is a moving target.

Nevertheless, two features unify today's scholarship around gender and media: the focus on power, and the related interconnectedness with other societal and social issues. As the activist-turned-media scholar Milly Buonanno (2014) observed, scholars addressing media and gender are concerned with the issues of *power* (however defined) when investigating mediated communication from a gender perspective. The aim is to understand the role media play, "always at the intersection with other social and cultural factors, in influencing processes of gender identity formation and development" (6).

One way to map the complexities of gender and the media is to approach this context to mediated communication from two distinct angles. On the one hand, one can examine feminist and gender movements, as well as theorization on feminism

and gender, and reflect that in research on gender and the media. On the other hand, one can look at how specific fields of research on mediated communication have incorporated gender perspectives, and what empirical research can tell us about mediated communication and gender.

2 Waves of feminism, waves of theorization

Today's feminism as a theory and as a movement is a continuum of three – or four, as some argue (e.g., Winch, Littler & Keller 2016) – generations, often called “waves.” The issues, approaches, and priorities of these waves frame the development of the context for gender and media. These generations overlap and co-exists, but they highlight the development of feminism and dominant ways of thinking at different points in time.

2.1 Second wave and its variants

The so-called first wave of early feminism in the nineteenth century was concerned with equality between men and women in terms of citizenship and voting rights. Given that mass communication was only in its beginning stages, feminist critique of mediated communication was not an issue for the movement. It was the second wave of feminism in the 1960s and 1970s that gave birth to feminist media studies. The second wave broadened its scope from political structures to social relations and women-specific issues: reproduction, mothering, sexual violence, expressions of sexuality, and domestic labor (Gillis, Howie & Munfort 2007: xxi).

In mediated communication studies, the equivalent of the second wave feminist movement was the study of images of women in the media, and how they misrepresent and harm women (e.g., Buonanno 2014: 11). This approach can be further deconstructed. The second wave of feminism was very much about stereotypical binary oppositions, the most basic one being public domain as masculine and private sphere as feminine. Yet, different views within the second wave treated these oppositions differently.

Liesbet van Zoonen (1996), a key scholar in defining feminist media studies, sums up three distinct views: liberal, socialist, and radical feminism. She stresses that the proliferation of scholarship and approaches made achieving a complete review of feminist media studies practically impossible (31). These categories are crude generalizations, and do not neatly entail some other views, such as psychoanalytical approaches to feminism. Nevertheless, they highlight how the second wave feminism influenced and inspired mass media research. In line with the political aspirations of feminist studies, these approaches entail specific normative recommendations on how to improve media.

Liberal feminism addresses the stereotypical roles of women and men and their representations in the media. A classic study embodying the approach is the edited volume *Hearth and Home: Images of Women in the Mass Media* (Tuchman, Daniels & Benet 1978). As Gaye Tuchman (1978) observed of the United States of the 1970s, although women made up half of the population and 40% of the workforce, they were not visible to the same extent in mass media. Tuchman famously called this “the symbolic annihilation of women in mass media” (8). Her proposed solutions called for increasing diverse representations of women, as well as increasing the proportion of women in the journalistic workforce in different levels of media organizations. This is not only a North American strand of thought but a global one, also promoted in connection with the United Nations Decade for Women, 1975–1985 (Byerly 2016).

By contrast, radical feminism does not want to influence mainstream media; it proposes women-specific, alternative forms of mass communication (van Zoonen 1996: 35–36). This is because radical feminists see most societies as patriarchal, by definition oppressive to all women. From the perspective of media studies, pornography is one of the key topics and it is analyzed as the ultimate form of patriarchal misogyny. In terms of the binary oppositions, this view embraces them. Many of them (care, sensitivity, emotionality as feminine) are seen not as stereotypical but as women-specific traits and characteristics that should be celebrated. Van Zoonen (1996) expresses doubts about the validity of this view that seems to glorify womanhood.

The third view of the second wave of feminism is socialist feminism. According to van Zoonen (1996: 36–37), this strand sees the need for both mainstream media to change, as well as alternative media to emerge. The difference between liberal, radical, and socialist feminism is that the socialist stance joins concerns about hegemonic ideologies of femininity to concerns about class inequalities. Its focus is on the mainstream, middle class-oriented content in mass media, as well as just working conditions for female journalists and other media professionals, including issues such as equal pay and work-life balance.

2.2 Third wave brings in gender

The second wave of feminism and related media scholarship have both been largely defined by three features: focus on women, women as one uniform category in binary opposition to men, and communication as an instrument of social control (van Zoonen 1996: 40). In retrospect, it seems evident that the second wave was followed by something different, and contradictory. Nancy Fraser (2009: 4), one of the most prominent theorists of feminism and social theory, notes that this is when “the movement shifted its attention to cultural politics just as a rising neoliberalism was declaring war on social equality.”

Since the 1980s, third wave feminism has sought to address the issue of gender. Instead of using the universal category of “women,” the third wave puts emphasis on individual, personal experiences. Following the rise of postmodernism, a grand theory of the constructed, discursive nature of reality, the “third-wavers” have not been as keen on theoretical or political unity as they are on multiple interpretations and voices. The third wave of feminism wants to avoid strict borders and categorizations and seeks to be inclusive, ready for coalitions (Snyder 2008: 175–176). Power inequalities that were so evident and concrete during the second wave became discursive, negotiated, and always in flux in the third wave.

Many have considered this shift contradictory: “Were we going through a backlash against feminism, a markedly new third wave of feminism, or a moment of post-feminism?” (Gillis, Howie & Munfort 2007: xxii). Cultural critic Susan Faludi (1991) argued for a backlash in her book of the same name. She gives an array of examples from popular media, noting, for instance, how women who are powerful in the public sphere are portrayed as failures (e.g., as emotionally rigid, or even unstable) in their private lives. The film *Fatal Attraction*, with Glen Close as a successful career woman turned revengeful lover, is one of Faludi’s most well-known examples.

As a movement and scholarly trend, the third wave brought about a distinct broadening of perspectives. It is illustrative that men’s and masculinity studies emerged in this era. At the same time, the third wave has been marked by theorists beginning to move from femininity and masculinity as main cultural constructs within the concept of gender, to “gender trouble” and “undoing gender” (Butler 1990; Butler 2004), introducing the so-called queer theory. This theory is grounded in the idea that identities, including sexual identities, are not fixed. Therefore we might want to give up any fixed ideas of “women” and “men” and embrace the fluidity of gender. Others, including technoscientist Donna Haraway (1997) with her theorization on cyborgs, combined feminism with science and technology studies, creating a sub-field called *cyberfeminism*.

In addition, black feminism and post-colonial critique of Western feminism surfaced in the mainstream during the third wave. Since the mid-1990s, scholars have studied black female representations in a variety of media contexts, and feminist media theorists like bell hooks (1996) have addressed feminism and race. This was also when legal scholar Kimberle Crenshaw (1997) coined the now-common term *intersectionality* to indicate the impact of race and gender. There were also distinctly more global voices. Globalization brought about the need to mobilize to work on human rights and development issues, while remaining loyal to locally specific (or national) struggles, an approach called *global feminisms* (Sarikakis et al. 2008: 507). The idea was to avoid the oppositional positioning of feminism and multiculturalism and enhance the awareness of gender, class, and race in the context of international communication (e.g., Valdivia 1995).

For the third wave, the dominant narrative that emerged was that of politics of difference (e.g., McRobbie 1985). This also meant a shift in studying women to studying different reiterations of gender in mediated communication. Popular culture, ranging from reality TV to gaming and later to social media, became central as a place of identity creation and resistance; of alternative readings. Nevertheless, some authors, such as the cultural studies scholar Angela McRobbie in her essay “Post-Feminism and Popular Culture” (2004), discuss the emergence, and dangers of, what they call *postfeminism* that emerged during the third wave. McRobbie is especially vocal about the turn that she defines as “definite self-critique in feminist theory” (255). McRobbie’s concern is that post-feminism appears to reject the political goals of the second wave, and engage in ironic consumption of popular culture, including pornography, without considering gendered inequalities that may be embedded in representations and practices of popular media.

2.3 Is there a fourth wave?

Some scholars say that we may be entering an era of post-postfeminism, or, the fourth wave. Feminism as a political and cultural issue has regained visibility in the past years (e.g., Gills 2016). Fourth wave is an emerging term in public discussions from news to blogs, and even the name of a university-based feminist online magazine (<https://thefourthwavepitt.com/>). Much of this discussion highlights the third wave term “intersectionality” as political agenda. For Nancy Fraser (2012), this may actually be a new phase of the second wave: a potential emergence of feminism as a movement that finds allies in other movements opposing concentration of power. Fraser and others (e.g., Davis et al. 2017) have called this “feminism for the 99%.”

Today, the relationship between gender and media as a field of study, as well as in terms of feminism as a movement, is a complex one. The diversity of feminist and gender theorization is coupled with the new challenges that online environments pose to communication and media research. Similarly, feminism as a movement defined by generations has been critiqued. Scholars note that generational understandings of feminism are increasingly in the media limelight (as in the case of the 2016 U.S. elections and young voters’ ambiguous relationship to Hillary Clinton as a feminist). The idea of different waves seems to position different views against one another and insinuate an end of the previous era. Some feminists of color note such generations are not a priority for them as intersectionality is more of a burning issue from their perspective (Winch, Littler & Keller 2016). Challenges to the idea of feminism and gender studies waves are numerous. At the same time, mediated debates about feminism are equally numerous, as are new and emerging topics for gender and mediated communication, due to the rapidly changing media landscape.

3 Fields of communication research, fields of gender, and media studies

What can these different theories and understandings of the relationship between gender and mediated communication mean when applied to specific topics of mass communication research and media studies? For these academic disciplines, gender can be an object of study, ranging from health communication to theorization of the public sphere (Frazer 1992). In her classic critical introduction to the field, *Feminist Media Studies*, Liesbet van Zoonen (1994) provides a basic framework beyond politicized agendas and waves. She looks at gender in terms of media texts, media production, spectatorship and gaze (who seems to be the spectator of content), and reception by audiences.

Others (e.g., Meehan 2002; Sarikakis & Shade 2010; Sarikakis 2012) have examined gender in media policy and political economy. In addition, there are many analyses of social media use. For example, *ADA*, a journal of gender, new media, and technology hosted by the University of Oregon (<http://adanewmedia.org/>), has published articles on online harassment, revenge porn, libraries in the digital age, hacker activism and race, crowdsourcing, and feminist game studies.

The massive reader *Gender and the Media* (Mendes 2017) offers a comprehensive outline of the relationships between gender and mediated communication as they are understood today. It discusses research on women's absence in a range of media from around the world, in the news and specifically in politics; gender representations and stereotypes in the media, with topics ranging from housewives to visual pleasure to violence against women; how gender relates to audiences and users, including gamers and digital activists; and what feminist political economy as well as feminist assessments and interventions in media policy mean in the context of gender and media studies.

Because of the vastness of the field, the following sections highlight possible approaches to gender, and some theoretical and empirical findings, as they pertain to two basic, lasting foci of feminist and gender and media studies of each wave: television and news.

3.1 Medium: Television

Television has been an essential inspiration for research in gender and media studies. For that reason, Milly Buonanno (2014), in her review of the field, focuses on feminist-inspired scholarship on television. She notes that such scholarship has generated the largest body of research on the construction of femininity in the media, elevating television as the most important medium in the media system. She further posits that, despite the impact of digitalization and convergence, television continues

to hold a central role for studies in mediated communication and gender. Gender and media scholars can approach television from a variety of angles, stemming from different generational and thematic junctures of feminist scholarship.

First, television can be addressed from the second wave perspective of representations and their stereotypical portrayals of gender. Gender representations are the most common form of gendered television studies. They can be explored quantitatively – in terms of proportions of women and men appearing on TV – or they can address how gender is portrayed. Gender portrayals often focus on a specific genre, ranging from news to soap operas. There is substantial work in this area that indicates general and persistent underrepresentation of women, as well as a lack of multidimensional portrayals of them. These patterns seem to also be typical in non-Western television programming (e.g., Mcmillin 2002). There is no consensus about the relationship between gender portrayals and genre, although channels targeting women seem to offer more nuanced and varied gender portrayals for both women and men, whereas channels targeting men tend to resort to old stereotypes (Daalmas, Kleemans & Sadza 2017). Persistent, and similar, stereotypes can also be found in TV advertising all around the world (Matthes, Prieter & Adam 2016).

On the other hand, as Buonanno (2014) stresses, TV has been at the forefront of representing third wave ideas and ideals of gender. Some examples can be found in the study *Defining Women* by Julie D'Acci (1998), which Buonanno (2014: 20) called a seminal and “still unequalled ‘integrated approach’ encompassing production, textuality, and reception.” D'Acci researched the American detective series *Cagney and Lacey*, the first TV show highlighting feminist issues. Her research looked at the television industry, the series production, the mainstream and feminist press, various interest groups, and television viewers to understand cultural and social production of gender. Buonanno also highlights Amanda Lotz's (2006) work on female-centered dramas of the 1990s, with complex portrayals of female characters, such as in *Ally McBeal* and *Sex and the City*, evidence of changing stereotypes.

It is good to remember, however, that stereotypes can become more complex when coupled with a specific focus. For example, Liesbet van Zoonen's (1998; 2006) studies on politics and popular culture indicate that representations of female politicians are less complex and hybrid, often more unfavorable, and feature an extreme polarization of femininity and politics. It is fine, and even beneficial for a male politician to reveal elements of his private side in the media, whereas the same can be detrimental to a female politician and result in negative portrayals.

Second, television can be looked at from the perspectives of viewers. One way is to examine gender as a demographic variable in examining television ratings. For example, the political economist Eileen R. Meehan (2002) has looked at ratings from the feminist perspective and notes that white men have tended to constitute the most valued audience by advertisers and that, in turn, prompts programmers to target male audiences, and recreate their dominant role. A more recent report by two organizations, *PGA Women's Impact Network* and *Women and Hollywood* (2015) notes

that women in the U.S. will exceed men in purchasing power toward the end of the decade, but creators of media content still are not fully tapping into women as a powerful market segment. And indeed, audiences potentially accept value hierarchies that are embedded in different TV genres. In his seminal qualitative research on audiences' value judgments, "I'm Ashamed to Admit it But I've Watched Dallas," sociologist Pertti Alasuutari (1991) documents binary oppositions value hierarchy between "hard" and "soft" programming. When viewers talked about program preferences, "masculine" genres were more highly valued than "feminine" ones. Gendered hierarchies of viewing practices could also be found in family settings, such as the decision power over program choice (Morley 1986).

A very different approach could be taken with the "gaze-glance theories" that focus on how a program positions the viewers, whether in terms of camera work, in terms of the characters, or in terms of audiences (e.g., Buonanno 2008: 31). Who is watching whom? These theories originate from a seminal essay in film studies during the second wave, which pointed to the voyeuristic male gaze that dominates mainstream films (Mulvey 1975). In between production and reception, gaze-glance theories have to do with identification. They position the male gaze as the dominant norm that calls for identification with the patriarchy.

By contrast, third wave scholarship emphasized the possibility of alternative readings of television texts, and that viewers can use content multiple ways, to fit their life situation. This approach in gender and media studies reflects the broader understanding of media audiences in the field of Cultural Studies, sometimes dubbed *active audiences* (e.g., Livingstone 1998). Online and social media have brought new dimensions to TV viewership. An example of a contemporary approach in the field of gender and media studies is the multi-method research on the television series *Glee* (Marwick, Gray & Ananny 2013). The study focuses on portrayals of gay characters in *Glee* and examines the program from a *transmedia* perspective. Not only does the research include content analysis but also ethnographic fieldwork as well as an analysis of viewers' Twitter conversations. Fans of the program use it to think through their own life situations, as well as to articulate in public their identification with, and awareness of, lesbian, gay, bisexual, and transgender-identifying people.

Finally, television production can be looked at through a gender lens. Media and cultural industries, as well as journalism, have been examined on terms of gendered organizational and institutional practices and employment patterns (e.g., De Bruin 2000; Gill 2014; Ross 2014). Yet, television production is not a vastly populated field in gender studies. D'Acci's (1998) study remains a classic; another oft-cited text is Laura Grindstaff's (2002) research on talk show production. A recent example of an integrated study of content, audiences, and production is Lünenborg and Fürsich's (2014) study on migration, gender, and class on television. It found that both producers and audiences connected ethnicity, class, and gender, and tended to position migrant women as "others." In general, studies of television production reflect, and connect to, gender portrayals and gendered practices of viewership.

3.2 Genre: Women in the news

The news genre has long been one of the key foci of feminist media studies because of its cultural value as a “serious,” important genre, with the potential to reinforce or break stereotypes (Carter, Branston & Allan 1998: 6). News and gender can be approached from several directions: ownership of news outlets, employment patterns and professional identities, news sources, representation, narrative forms and practices, feminization, sexualization and entertainization of news, and news audiences (Carter, Branston & Allan 1998: 1–9).

One of the most global, and influential, research efforts on gender and the news focuses on news actors and news creators. The Global Media Monitoring Project (GMMP) is a collaborative effort of universities, activists, and journalists to track who makes the news and speaks in the news. The research project, prompted by the United Nations Fourth Conference on Women, began in 1995 with some seventy countries and has been repeated every five years since. Since 2000 GMMP has been the work of the World Association for Christian Communication (WACC) Women and Media Programme.

GMMP is a massive effort. As an example, in 2015, two decades after the first round, volunteer teams in 114 countries gathered data for just one news day. They monitored 22,136 stories published, broadcast, or tweeted by 2,030 distinct media organizations, written or presented by 26,010 journalists and containing 45,402 people interviewed for, or the subjects of the stories. Some global findings include the following (GMMP 2015):

- In 2015, women made up only 24% of the persons heard, read about, or seen in newspaper, television, and radio news. That represents improvement. The figure in 1995 was 17%.
- Globally, women hold approximately 40% of paid employment while a large proportion work in the informal sector, particularly in Global South contexts. The world according to the news looks very different. In the news, only 20% of the total workers in the formal labor force are women, while 67% of unemployed and stay-at-home parents are women.
- Thirty-seven percent of stories in newspapers, television, and radio newscasts are reported by women.
- Nine percent of stories evoke gender (in)equality issues, but only 4% of stories explicitly challenge gender stereotypes.
- Women’s relative invisibility in traditional news media has crossed over into digital news delivery platforms. Only 26% of the people in Internet news stories and media news Tweets combined are women.
- There are surprisingly few regional-cultural variations of the findings.

GMMP is not a purely academic effort. It relies on a quantitative coding scheme of one day’s main news in radio, TV, newspapers, and online. Not all coders of research

data are academic researchers. The research is meant to serve as an advocacy and education tool, rather than a scholarly endeavor. At the same time, GMMP highlights essential aspects of gender and mediated communication: the global scale of certain inequalities and the importance of the news genre. While an applied effort, it also represents a study of longitude and scale unique in mediated communication studies. Finally, even with all the challenges in terms of reliability and validity of a global, one-day news monitoring effort, GMMP shows an undeniable global pattern of gender disparity in the news.

4 Emerging issues and approaches

Despite the vast existing scholarship, approaches to gender and mediated communication are still needed, and evolving. Carolyn M. Byerly, one of the pioneers of gender and the media studies, recently noted that “while attention remains fixed disproportionately at the micro-level of analysis, where concerns are primarily with women’s representation in media texts, there have been shifts toward a more complex set of questions and frameworks of analysis.” Additionally, in the era of new technologies and rapidly changing ownership structures, feminist scholarship needs to move decisively to analyze these (Byerly 2016: 15–27).

Some trends directly tied to technology seem evident. Given the rise of augmented and virtual reality, game studies will most likely proliferate and follow the footsteps of such virtual anthropologists as Tom Boelsdorff (2008) in studying gender in those environments, including social media platforms. The latter may also inspire more analyses that draw from cyberfeminism, and from numerous disciplines. For example, “selfie research groups include specialists in anthropology, sociology, history, visual culture, rhetoric, political science, gender and sexuality studies, and many other fields” (Losh 2015).

New platforms offering TV-like content, such as Amazon, Netflix, and YouTube, with programs such as *Orange is the New Black*, *Transparent*, *Broad City*, and *This is Everything: Gigi Gorgeous*, are at the forefront of creating programming that counters stereotypes and features multi-dimensional characters with different, and fluid sexual identities. The platforms are in many ways international, if not global, and can thus have a major impact on gender portrayal in different cultures. And surely personalization and algorithmic news production will bring about new data about gendered preferences and gendered *filter bubbles* (Pariser 2011). Multiscreen, individualized viewing habits have probably already changed the situation of family TV viewing.

Emerging fields of research tackle issues of media policy, governance, and activism. Two forerunners in this field are media policy scholars Katherine Sarikakis and Leslie Regan Shade who, in their book *Feminist Interventions in International Communication* (2007), provide policy and political economy analyses on the globalizing

media landscape. For example, they address development communication and the gendered digital divide – issues that are very much on the agenda of the global development community. Shade (2016) also posits that “both scholars and activists need to continue to examine digital policy issues through feminist political economy, which can underscore systemic and structural power dynamics emanating from governments, industry, and international policy regimes that can (and do) materially impact the gendered shaping of everyday uses of ICTs for social inclusion and cultural empowerment” (Shade 2016: 368). In addition, studies documenting digital activism in different contexts (e.g., Dashti, Al-Abdullah & Johar 2015; Newsome & Lenger 2012) will be an important part of understanding digital media and gendered political contexts.

Global outlooks will most likely increasingly recognize differences, but also similarities – both in terms of geography, as well as in terms of waves of feminism, and in terms of connections to broader academic paradigms. Gargi Bhattacharyya (2013) reiterates that old questions are new again, and so the question of gender still pertains. Gender and sexual imagery online is an important topic of study; access to communication technologies and other economic factors matter to mediated communication; and online misogyny, as well as security of participation via communication forums, is a priority. Perhaps the hybridity of the field responds to the complexity of issues surrounding mediated communication today. Andrea Press (2011) argues for this very point in discussing post-feminism, and highlights that gender and media studies has always been poised between the humanities and the social sciences, because it looks at mediated communication but addresses inequalities.

One of the pioneers of empirical feminist media studies, Margaret Gallagher, has identified the common narrative to all complex approaches to media and gender: “The range, complexity and transdisciplinarity of feminist media studies today bears little resemblance to the fledgling body of work that began to appear in the 1970s. Nevertheless one common thread underpins feminist media theory and criticism from its origins to the present. The defining characteristic of this body of work is its explicitly political dimension” (Gallagher 2003: 19). This feature has never ceased to frame the context of gendered approaches to mediated communication.

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22 Media and Civic Engagement

Abstract: The meaning and forms of civic engagement have changed significantly from the end of WWII to the present. This chapter charts civic engagement through a broader framework for understanding community and civil society. The meanings of civic engagement have changed through three periods: from World War II to the 60s; large collective movements from the 60s to the 90s; and the rise of “post-materialism” from the 90s on. We pay particular attention to the rise and impact of new communication technologies on civic and public life, and the theory of “actualizing citizenship.” The chapter concludes with a discussion of “blended” media and civil activism, arguing that the new communication ecology both shapes and is shaped by citizen action. We distinguish between the different ecological configuration of the contemporary right and left, arguing that contemporary media-centric analysis of civic engagement should yield to more integrated analytical, sociological, and historical accounts.

Keywords: civic engagement, community, civil society, civil sphere, post-materialism, actualizing citizenship, blended media, public sphere.

This chapter analyzes the changing meaning and forms of civic engagement primarily in the U.S. in the period between the end of World War II and the first decades of the twenty-first century. The meaning of civic engagement varies widely, by society, time and place, and social scientific usage. In some periods, the role of group norms or individual socialization comes to the fore; at others, collective action or social protest.

Our account is organized in three parts. First, we offer a brief general framework for understanding community and civil society. Second, we analyze three broad periods: the period from World War II to the sixties; the period of civic turmoil from the sixties onward, in which large collective movements reshaped the meaning of citizenship and civic engagement; and finally, the period beginning in the mid-90s, sometimes characterized as the rise of post-materialism, with new communication technologies acting as a direct force in civic life. In the third section, we look more closely at the literature on civic life and communication from the 2000s on. We first discuss the literature that hews to a more traditional orientation toward civic and political engagement. Next, we critically examine a “post-materialist” theory of actualizing citizenship in a variety of forms.

In the final section, we turn to the contemporary period to evaluate a period of “blended” media and civic activism. We argue that all civic activity in this period has communicative dimensions, and the communication ecology both shapes and is shaped by civic engagement by a growing number of citizens. But we also point to distinctions between left or progressive and right wing or populist social movements, arguing that the civic and communication ecology of each varies, and that general

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discussion of “civic engagement” needs to yield to more analytically, sociologically, and historically grounded accounts.

1 Community, society, and civil society

The problem of how citizens engage with society is embedded in a larger set of assumptions about community, society, and civil society. Community is a central concept of sociology, dating to Tönnies’s (2001 [1887]) distinction between community (*Gemeinschaft*) and society (*Gesellschaft*). Community represented the relatively closed, social unit in which most people knew each other, group identities were internally homogenous, and bonds of trust lay inside this boundary. Society was the larger social unit: more abstract, calculating, complex, and impersonal, and tied to the capitalist market. Durkheim (2014 [1893]) posited that the relations between individuals in complex societies would lead towards a new form of “organic solidarity” because their relationships would form what Simmel separately called “cross-cutting social circles” (Simmel 1969 [1922]).

The distinction between community and society continues to shape current debates about civic engagement, diversity, and social capital even in a networked society. It forms the broader framework for how diverse groups do or don’t encounter each other; through what forms or media; whether they raise differing and sometimes clashing interests; and whether they can resolve these differences more or less peacefully. Community engagement forms the process through which different groups constitute their identities and the cross-cutting relations in which differing interests are expressed. The core community question is whether relatively homogenous communities, complex differentiated urban communities, or some combination of the two are better suited for modern social integration (Friedland & McLeod 1999; Friedland 2001). Community engagement may be (but is not always) a precondition for civic engagement.

The term civic engagement has its roots in the idea of civil society which properly begins with the Greek polis or city state, through the idea of political community. This was extended to Roman citizenship, and the medieval “*civitas*” where it takes on its modern resonance. The medieval city state gave rise to the earliest notions of the individual subject and the idea that urban space itself, the city, was a site of free association. From these free urban spaces the idea of civic autonomy grew into the broader concept of civil society in the modern West (Ehrenberg 2017). Civil society is the realm of free association in which individuals as citizens can gather, express and debate public opinion, and act in concert to realize their goals in the economic and political spheres (Cohen & Arato 1992). As the “civil sphere” (Alexander 2006), it is the central arena mediating the other areas of social life connecting everyday life in community to the public sphere, public opinion, politics, and governance.

Research on civic engagement asks how, at any specific time in history, individuals act together in civil society; what preconditions of community and socialization

lead them to do so; which social structures encourage or discourage engagement; and what common ends people seek when acting in concert.

2 The debate over civic cultures

“Civic engagement” is historical. Each period of “civic culture” and civic engagement is shaped by the historical conditions and demands of its society; the ways that social scientists make sense of that period and the tools that they use; and finally, a specific communication ecology, the environment in which individuals and institutions communicate with each other.

2.1 Post-World War II to the sixties

The period in the West after World War II, 1945–1975, is sometimes called the “golden age” because of a long wave of economic expansion, relative social stability, and a more equal distribution of wealth (Marglin & Schor 1990). In almost every nation in the West, the social welfare state expanded in varying degrees (Esping-Andersen 1996). To be sure, the fruits were unequally distributed, with African-Americans and minorities in the U.S. still deprived of both full political and economic citizenship, and most non-Western nations still suffering from colonial underdevelopment and caught in the Cold War between the U.S. and Russia. But the expanding wealth and stability in the West underpinned social scientific thought about civic engagement.

Social science in the U.S. was dominated by structural functionalism, which sought to explain how individuals, groups, and institutions fit together to form “social integration,” as well as to describe and explain dysfunction, such as the continuing inferior position of African-Americans (see for example, Myrdal 1995 [1944]; Parsons 1969). The broad view was that individuals were socialized into “roles” that they played as they moved through life, in the family (gender roles), workplace (occupations), and community (civic roles). Socialization into roles was necessary so that the right kind and number of individuals would be “produced” for social integration. This was true of civil society as well. America was seen as a society of pluralistic associations, and for this to work, citizens had to be socialized into the give and take of views and interests, without violent conflict.

The exemplary social-scientific understanding of civic engagement in this period was Almond and Verba’s *The Civic Culture* (1989 [1963]), which argued that democratic life requires the support of a civic culture characterized by allegiance to the national government, pride in the political system, and modest levels of political participation. Following the dominant modernization model (Shah 2011), they argued this “allegiant model” was most developed in the U.S. and Britain. The civic culture

was characterized by: types of attitudes; cognitive orientations toward political life; affective orientations; and evaluative judgements about political processes.

Almond and Verba analyzed three broad types of political culture: *parochial culture* in which individuals are apolitical; *subject culture* in which citizens are aware of the state and its authority; and *participant culture* in which citizens are oriented towards four classes of political objects: parties, interest groups and associations, the state, and the civic self. They argued the civic culture most conducive to democracy was a mix of subject and participant orientations in which citizens obey the law, respect legitimate authority, and are aware of their limited role in participation. This template continues to influence the framework of research on civic engagement to this day, particularly in survey and experimental work that seeks to connect socialization with individual civic attributes and attitudes. This civic individual reflected what Schudson (1998) would later call the “informational citizen” and Bennett (1998) the “dutiful citizen”: sufficiently attentive to news and information about the government to vote his or her interest, but not so active as to disrupt an elite-dominated decision making process.

The civic culture was isomorphic with a “high modern” media system (Baym 2010) characterized by an elite-driven and dominated newspaper culture in which reporters and editors had a symbiotic relationship with government and business. The quality press like the *New York Times* was at the apex of this system. In the U.S. the three dominant broadcasting companies largely followed the lead of the elite press. In a parallel system, local newspapers existed in all cities and many towns, similarly covering local elites with the addition of community life and issues (unevenly), and local broadcast affiliates largely following their news lead (Kaniss 1991). Conflict or disagreement rarely broke into the news, other than that between the two major parties (Bennett 2011). A relatively quiescent civic culture combined with an elite-driven media system resulted in (or coincided with) relatively high levels of public trust in government and major social institutions, peaking in 1964 before entering a long decline (Pew Research Center 2015).

Critical social scientists, most notably C. Wright Mills (2000 [1956]), called this ideal civic account into question, pointing to continuing deep racial inequality, a militarized state, and continuing class conflict, but their influence wasn’t really felt until the mid-sixties with the eruption of widespread social and civic conflict.

2.2 New social movements (mid-1960s–1990)

Almond and Verba’s civic culture set the frame for civic participation research for several decades, but the forms of engagement already were diversifying by the 1950s, and accelerated from the 1960s through the 1980s. The non-violent civil resistance of the civil rights movement in the South inspired and mobilized millions of Americans in the 1950s and 1960s, and pioneered a template for anti-war, feminist, and LGBT movements that followed in the late 1960s and 1970s (Gitlin 1993). The civil rights movement was also a catalyst for many more traditional associations in the U.S., as YMCAs,

Leagues of Women Voters, and hundreds of other associations lent their moral, political, and financial support. The movement also transformed the Democratic Party.

For citizens in the American North, the civic transformations represented by civil rights arrived first via television. Then, in the early-1960s, student movements stimulated new forms of communication (local newspapers, counter-radio, circuit riding organizers) on hundreds of campuses and communities (Gitlin 1993). They grew out of civil rights techniques, but increasingly turned into a movement of protest against the Vietnam War. The anti-war movement continued to grow till the end of the war in 1975.

In the late 1960s those movements fragmented and diversified further. The feminist movement arose in cities and on campuses, with the slogan “the personal is political.” It expanded the scope of what counted as social injustice and inequality, and also politicized many aspects of everyday life, from the relations between men and women to equal pay and harassment in the workplace. With the Stonewall resistance in 1969, a new protest era of the gay and lesbian movement was born (early incarnations took more traditional associational forms). The civil rights movement split into many groups and alliances, from the more traditional NAACP and SCLC to Black Power movements for community self-help (Gilmore & Sugrue 2015: 414–448).

In subsequent decades, these movements continued as waves, and were joined by others, for example the movement to end South African apartheid. The Feminist movement also spread more widely to working women and women of color, introducing gender politics more directly into the workplace. In the 1980s, AIDS stimulated new forms of political activism and resistance in the LGBT community against a Reagan administration that would not admit the disease existed. AIDS also stimulated new forms of grassroots self-help in hundreds of communities and new organizations like Act Up (Armstrong 2002).

The civic innovation represented by the new movement politics was soon knit into the scholarly tradition, especially by sociologists in the emerging fields of social movements collective action, and later picked up by other disciplines (Davis, McAdam, Scott & Zald 2005). However, and significantly, with few exceptions, this work – and the kinds of participation they documented – weren’t treated in the traditional “civic” literature, other than under the banner of civic and political dysfunction. The interpretation of their effects on the wider society became part of a debate on the causes of what was seen as civic decline. This yielded a scholarly divide between those, especially in political science, who continued to frame civic culture in the mode set by Almond-and-Verba, and those, mostly in sociology, who concentrated on the workings of social movements.

2.3 Anxiety and decline

By the mid-1970s, a discernable rise in mistrust of government, which later spread into a broader distrust of most political and civic institutions, was underway. As early

as 1975, Robert Bellah (1994 [1975]) wrote of the “broken covenant” of American civil religion. In 1985, he coauthored the classic *Habits of the Heart* (2007 [1985]) which argued that sustaining community in the U.S. is particularly difficult because individualism is “the first language in which Americans think about their lives” (viii). In the past, communities endured because of an ethos of commitment, community, and citizenship, but civic life is in crisis, threatened by the “temptations and pressures to disengage felt by every significant social group” (xi). Other major works of the decade, including Mansbridge’s *Beyond Adversary Democracy* (1983) and Barber’s *Strong Democracy* (2009 [1984]), similarly searched for new, stronger forms of political and civic participation.

The contemporary concern with civic culture was reframed by Robert Putnam from the mid-1990s (Putnam 1995, 2000). He argued that the United States has seen a secular decline in civic engagement. Putnam saw a long civic wave, beginning with the Progressive Era in the pre-World War I period, arguing that stocks of “social capital” (the norms and networks that people can draw on to solve common problems) began to be depleted by the 1960s. He showed that many measures of traditional associational life in the U.S. have been in decline. Membership in religious congregations (particularly mainline congregations and their formal governance structures) declined by one-fifth between 1980 and 2000, and membership in parent-teacher associations and organizations plummeted. Union membership fell by half from its highpoint in the 1950s (and the decline has continued). Women’s organizations like the League of Women Voters and membership in fraternal and business clubs had dropped. Putnam argued that more worrisome is the decline in active participation in these organizations. He estimated that the active core of U.S. civic organizations, those who served as officers and committee chairs, declined by 45% from 1985 to 1994, resulting in a loss of nearly half of the U.S. civic infrastructure in less than a decade.

Putnam identified two major causes for civic decline. The first was generational replacement, as the “long civic generation” raised in the depression and which fought in World War II was replaced by the Baby Boomers. The second, and related, was the rapid rise of time spent watching television which, he argued, displaced civic activity. Both arguments are important to our understanding of civic engagement today, and both have been disputed. The generational argument places the cause backward in time, fixed in a specific era in U.S. history, and makes the causes of decline demographic without really specifying what, other than television, led to such a radical shift. Shah and colleagues have argued that the television argument is too broad, failing to distinguish among the effects of viewing different forms of TV, e.g. news versus entertainment, or drama versus reality (Shah, Cho, Eveland Jr. & Kwak 2005). Both have implications for contemporary arguments about young people, civic engagement, and the Internet, which we turn to shortly.

Both Putnam’s thesis and his data have been contested and we cannot fully review these counter-arguments here. Among the most important are: 1) despite Putnam’s claims, volunteering in America has been unevenly increasing since the 1990s,

including among youth (Lim & Laurence 2015; Morimoto & Friedland 2013; Office of Research and Policy Development 2010); 2) Americans' forms of sociability have changed, not declined, and informal "loose connections" have spread (Wuthnow 2002 [1998]); 3) the movement of women into the workforce forced a radical shift in volunteer labor available for civic life (Costa & Kahn 2003); 4) the very concept of social capital is a loose metaphor that does not advance our understanding of civic life (Fischer 2005); 5) shifts in the U.S. racial and ethnic composition have lengthened social distance and division (Portes & Vickstrom 2011); and finally 6) the forms of civic participation, engagement, and association have changed in fundamental ways, whether through new forms of public-civic innovation (Sirianni & Friedland 2001), connective action (Bennett & Segerberg 2013), or the digital transformation of associations (Bimber, Flanagin & Stohl 2012).

Other scholars concurred with the broad strokes of Putnam's evidence while emphasizing other aspects of its cause. Skocpol (2003) is particularly notable in this regard for recognizing the same tendencies in American participation as Putnam, but rather than trace their origins to home technologies and the choices of citizens, she is careful to note the changing environment in which citizens are living. Specifically, Skocpol points to changes in the invitations offered to citizens on the part of civic organizations that have long formed a critical layer in the American civil sphere. Tracing their history over about one hundred years, she shows that over the course of the twentieth century, civic organizations were transformed from federated membership groups that offered members rich interpersonal experiences, leadership opportunities, and communicative connections to politics at state and national levels, to highly professionalized organizations that emphasized insider lobbying and media work, leaving to citizens only the task of writing a check for "membership" every year. This story is parallel to Putnam's, hardly in competition with it, and also shows the significance of media technology to participation. In this case, it is the centralization of the nation's media culture, and the development of direct mail and databasing technologies in the 1970s and 1980s, that makes the shift to "check-writing" membership possible.

Finally, like many other political scientists analyzing American civic life, Putnam barely touches on social movements other than civil rights. While in the academic division of labor social movements and civic life are often separated, to evaluate the contemporary state of civic engagement, we need to consider both. What the Putnam debates count as civic participation may radically understate both the degree and forms of civic engagement.

As judged by both indices of trust and the social science literature, a widespread concern with civic and democratic engagement took off in the mid-1980s, spurred by both a documented decline in traditional forms of civic life, and the movements of the 1960s and 1970s as well as the backlash to them. These were reflected in changes in the media system as well.

Watergate was arguably the high point of Post War press success and power (Schudson 1993). But it also marked the start of an adversarial press that led to

increasing cycles of distrust (Patterson 1993). Further, with the rise of cable news in the 1980s, the old media system began to crack; although the high-modern press system still dominated national discourse, readership of newspapers continued a long decline. Looking back, Capella and Jamieson described a growing *Spiral of Cynicism* (1997) in which the erosion of social trust, institutional trust, and press trust all feed each other. The high modern informational model began to erode, in parallel with the informational citizen.

3 Post-materialist arguments and the reaction to “declinism”

Despite a general consensus on the overall trends in the decline of traditional civic activity and orientations, there is considerable dispute over the causes. The thesis of post-materialism, developed by Ronald Inglehart, argues that in the Post-War era, the “values of Western publics have been shifting from an overwhelming emphasis on material well-being toward greater emphasis on the quality of life” (Inglehart 1977: 3). According to this thesis, because the immediate needs of a broad middle class in wealthier nations have been satisfied, their attention has shifted to post-materialist concerns, including aesthetic, cultural, spiritual, and environmental values, with a decline of traditional religious and sexual orientations. This has also entailed a shift in the distribution of political skills, as larger portions of the population are educated, pay greater attention to public affairs, and want to participate more directly. We have moved from an “elite-directed” political system to an “elite-challenging” one which allows the public an increasing role in making decisions, not simply deciding between sets of decision makers (Norris 2011). Further, this is a generational shift with younger, better education cohorts more disposed to post-materialist values.

Inglehart (1977) opened a range of alternative explanations for the decline observed by Bellah, Putnam and others. In broad strokes, if there is an underlying political, economic, and cultural shift that is leading to a movement away from traditional civic and political activities, then “decline” is, at best, a backward-facing explanation of empirical tendencies. This becomes the first move in a new phase of argument that doesn’t have to be condemnatory. Rather, we can think of different forms of civic life responding to an underlying historical shift.

This line of thinking was greatly advanced by *The Good Citizen*, Schudson’s (1998) influential historical-analytical account of the “instructions of the game” of politics in America and how they have changed since the founding of the country. His critical point is that practices of citizenship have always been a reflection of the historical and cultural period in which they are situated, and as a result have shifted markedly over the course of American history. Schudson sees a broad movement from the citizenship of deference to elites that characterized the colonial era, to impersonal

authority, in which individual rights guaranteed by law have replaced the shared religious values based in the community. In the Progressive Era, the ideal of the informed citizen was born as part of an attack on the power of political parties. The informed citizen engaged politics through intelligence rather than passion, had a relationship to state more than party, and read the news in order to make an informed choice of parties on election day. This rational ideal continues to shape our notions of ideal citizenship today, though it is already fading in the lived experiences of many citizens.

Schudson's account of contemporary trends, analogous to Inglehart's "post-materialism," is the "rights-conscious citizen," a model born in the 1930s but expanded during the Civil Rights movement in the 1950s and during a series of other movements for group and individual rights (Schudson 2015). It added the courts to the voting booth as the locus of civic consciousness and action (Schudson 1998: 250), and was part of the larger social shift toward individual-centered politics (Inglehart 1977). Finally, Schudson introduces the model of the "monitorial citizen," a phrase coined by Keane (2011). The monitorial citizen understands participation in governance as a monitorial obligation, scanning the information environment for a broad range of issues, and mobilizing around those headlines that touch on her needs or interests (Schudson 2015: 310).

The early 2000s saw a handful of further frameworks for understanding changing citizen practices. Bennett's (1998) account of lifestyle politics built on Giddens's (Giddens 1991a, 1991b) and Beck and Beck-Gernsheim's (2002) insights about individualization processes in post-industrial society and the diminishing role of major social institutions in structuring social and civic life. Bennett (2007) postulated that two "civic styles" were now operant: one "dutiful," traditional style inherited from the Progressive era, and oriented to institutional politics and actions. The other, an emerging "actualizing" style that allowed much more latitude for the individual to decide what issues were personally relevant – and how they should be addressed, whether through lifestyle choices, consumer decisions, communicative actions, or more conventional politics.

Bang (2004) reported similar trends in citizenship practices among young Danes, with younger "everyday makers" turning away from institutional opportunities to participate in political action, and toward smaller, more everyday, self-defined and time-limited forms of engagement motivated not by duty but by a desire "to feel involved and to develop themselves" (24). In the same vein, but building more explicitly on Norris and Inglehart (2009), Dalton (2007) made the case that younger "engaged" people were demanding more vigorous participatory opportunities, and rejecting the relatively acquiescent style of older "dutiful" citizens.

One dimension of participation sometimes referenced in models of a new style of citizenship was politicized consumption – the injection of political and social concerns into consumers' purchasing behavior. As a form of participation, this seemed to fit with citizens living in a hyper-commercialized, individualized economy. Stolle and Micheletti's work has developed the paradigm of consumer participation, elaborating

the concept and demonstrating its place in the engagement repertoire (Stolle, Hooghe & Micheletti 2005). Later work has further clarified consumerism as a somewhat quintessentially personalized, easy-in, easy-out activity. De Zúñiga, Copeland & Bimber (2014) especially demonstrate the connection between political consumption and digital media use, further establishing its identity as an action that individuals can take when they choose based on information flowing over personalized networks.

Thus, by the mid-2000s, a number of research programs, without disputing the core of his empirical work, were proposing that Putnam's thesis overlooked the circumstances in which citizens, and especially younger citizens, found themselves. Their formulations tended to have an optimism, also present in Schudson, that citizens would respond to changing political and social circumstances to positive civic effect – that the citizens' new choices about how to engage were well adapted to continuing Western democratic traditions.

Still, much of the research on civic engagement continues to revolve around the informed citizen model, focusing on information gathering and processing, on cognition and attitude over action, on thought over social movements. Almond and Verba, who focused attention on the individual attributes of citizens' orientations towards information and their capacities for acting constrained within prescribed civic roles and institutions, have still set the frame for much of the civic research agenda in communication and political science.

4 Media in the evolution of citizenship

The 1990s and 2000s also saw tremendous growth in empirical work examining the relationships between civic engagement and communication, both interpersonal and mediated. Building on Almond and Verba's early analyses of news media consumption, and spurred by Putnam's indictment of television, this work initially focused on how mass media informed citizens and led them to participation, often in concert with interpersonal discussion (Huckfeldt & Sprague 1995; McLeod, Scheufele & Moy 1999). This research already considered differences in news consumption by media format, with newspaper consumption tending to have the strongest effects, though television news being more accessible to lower-education citizens (Eveland Jr. & Scheufele 2000; Prior 2007). The best of this work portrayed a complex process in which news media offered the raw material for political understanding and engagement – and interpersonal discussion provided space for elaboration, deepening of understanding, some encountering of different perspectives, and awareness of opportunities for acting. Delli Carpini and colleagues explored the limits of political knowledge and engagement (Delli Carpini 1996; Zukin et al. 2006). Some of this work operated under the communication mediation model, which integrated mass media exposure and interpersonal discussion (Shah et al. 2007). Renewed interest in Gabriel Tarde's

hundred-year-old work also served to deepen this work's theoretical foundation (Katz 2006).

In addition to measures of raw participation, scholarship on the relationships between media and civic attitudes also grew during this period. Here Cappella and Jamieson's (1997) "spiral of cynicism" thesis looms large, asserting as it did that politicians and the press were too often locked in cycles of unproductive criticism and recrimination, which tends to yield reporting that is critical of politicians and highly strategic in its framing of elite and government behavior. Beyond the news, similar concerns were voiced about political advertising, especially negative advertising (Ansola-behere & Iyengar 1997). Though political communication scholars could demonstrate that more engaged citizens consumed more news media, there also seemed ample evidence that the communication system as a whole was alienating much of the public.

4.1 The Internet, civic engagement, and social protest

By the mid-2000s, scholarship was beginning to assess the effects of the newest entrant to mediated communication: the Internet. The Internet was received with optimism in many academic circles, drawing on a narrative of the liberatory possibilities of digital communication which had been infused through the Internet's germination in San Francisco and Silicon Valley garages for several decades (Turner 2006). There was a sense that the participatory nature and possibilities of Internet communication might displace the one-way, monopolistically controlled mass media system. Writers such as Rheingold (2000 [1993]), Jenkins (2006), and Benkler (2006) celebrated the possibility of a reformed culture, including a civic culture, in which citizens empowered by the ability to express via digital media took a greater role in shaping the political terms of their lives. Against this narrative were those endorsing the "normalization" hypothesis, countering that the new technology would tend to be coopted by, and taken advantage of, by those privileged actors with the greatest capacity to do so (Hindman 2008; Margolis & Resnick 2000).

Early empirical studies of the role of Internet use in political knowledge and participation suggested a very tempered optimism. In two classic studies, Shah and colleagues (Shah, Cho, Eveland Jr. & Kwak 2005; Shah, McLeod & Yoon 2001) set the tone for this agenda, showing that Internet use was indeed joining other news media use as a source of civic knowledge and mobilization. But they also found that "Internet use" was no monolithic entity, that only users who used the technology to access civic information gained those benefits. This finding has become a core part of work in this area, which now carefully differentiates between the type of content users are accessing online (e.g. Bakker & de Vreese 2011).

Use of Internet communication by social and protest movements forms another important strand of this work. The 1990s saw growth in left-leaning social movements

that aimed to be transnational in scope, paying greater attention to the global South and focusing on issues of labor practices, global trade, and the environment. Uses of digital media by some of these movements quickly became symbolic of the possibilities of using digital media to communicate and coordinate beyond corporate- or state-controlled press. In Mexico, the Zapatistas, opposing the implementation of free-trade policies that would upend life for many farmers in Chiapas, began an uprising against the Mexican government, and used the internet to channel information out of Chiapas to activists and publics around the world (Wolfson 2014). In the United States, protests against neoliberal globalization in Seattle in 1999 signaled the emergence of “smart mobs” (Rheingold 2008 [2002]) who could organize themselves using digital tools. The protests also were the birthplace of Indymedia, a left-leaning journalist collective that enables writers to publish and distribute their work outside conventional media channels (Wolfson 2014).

By the time of the Arab Spring and Occupy Wall Street protests of 2011, the connection between digital communication and street activism had become highly visible (e.g. Lim 2012). On the ground, digital tools were becoming seen as vital components of coordination of protesters who often needed means to coordinate outside the control of the state (Howard & Hussain 2013; Hussain & Howard 2016). Moreover, the very terms of participation were changing, as much larger groups of supporters watched protests evolving through media channels, and made their own contributions communicatively, by showing support on Twitter or other social media.

Following the social media-enabled protest movements of 2011 have been new attempts to theorize how participation – especially social movement participation – occurs in the context of mobile “information abundance” (Bimber 2003). Especially Bimber, Flanagan & Stohl (2005) and Bennett and Segerberg (2013), have framed an important part of the debate, asking whether the dynamics of collective action, framed by Olson (1971 [1965]) as fundamentally a problem of resource mobilization and free-riding, might be transformed by the availability of digital media. Once again harking back to Putnam, these authors especially question the continuing significance of formal organization in structuring participation for citizens who are now equipped with networked communication media. Those communication media, it is proposed, are able to fulfill many of the coordination functions previously accomplished by formal groups. A key feature of these technologies is that they may ease, or blur, the transition from private non-involvement to public involvement by, for example, enabling sympathizers to begin associating through low-cost actions such as signing an online petition or “retweeting” a message.

The implications and questions raised for the study of media in civic participation are many: what activities should we consider political participation in this diversified environment? The old standards of voting, coordinating pressure, protesting, and so forth, are clearly still in use; but what about the new repertoires of online coordination and communication, including social media organizing (e.g. Freelon, McIlwain & Clark 2016) and online petitioning (e.g. Earl & Kimport 2011)? This question

has spurred a lively debate between those who see a healthy expansion of opportunities for participation that may offer engagement opportunities to more citizens (e.g. Papacharissi 2010) and those who deride these new forms as “slacktivism” – actions that are too easy to have any impact on either the target of action or the actor herself (Morozov 2011).

It is important to note that most work in this area has taken place on the political left, but similar, if not symmetric trends can be recognized on the right. The Tea Party, though embodied by older, less “digital native” citizens, used the web quite extensively in its organizing (Horwitz 2013; Skocpol & Williamson 2012). And the election of Donald Trump was supported by large cadres of an energized online “alt right” that has become a powerful force on bulletin boards like Reddit and 4chan, as well as Twitter (e.g. Martin 2017). The use of social media by activists on the right side of the political spectrum is now receiving more scholarly attention, and it is becoming clear that though they are often relatively small in number, groups of far-right users are highly active and can have consequential impacts on national debates and politics through social media. Studies of populist parties’ uses of social media show that the tools are widely used to circumvent traditional media gatekeepers, and communicate directly with potential sympathizers (Engesser, Ernst, Esser & Büchel 2017; Stier, Posch, Bleier & Strohmaier 2017). Moreover, on both sides of the Atlantic there are indications that the activity of right-wing actors is disproportionately represented on even mainstream sites like Twitter (Segesten & Bossetta 2017).

4.2 Social media and DIY

The changes we have described – especially, the changing social and political underpinnings of citizenship and a profoundly changed media system – have transformed the civic life in which citizens engage today. What can we say about current practice?

Thorson (2014) has argued that citizens today, especially younger citizens, experience a “do-it-yourself” (DIY) citizenship thanks to the myriad sources of information and inspiration, and modes of action, available and acceptable to them. Rather than a “new” mode of citizenship as described by Dalton, Bennett, or Bang, she argues that there is not any one coherent model to which citizens now subscribe. Instead, it is up to them to piece together a meaningful set of civic practices. The freedom and possibilities of this kind of citizenship are clearly endless; but so are its shortcomings. Without guidelines and models, how are young citizens, especially less advantaged young citizens, to develop effective civic repertoires? In these circumstances, Thorson worries that we will see exacerbated inequalities in participation as a relatively elite stratum receives a more directed and comprehensive sense of civic life, while others miss out on this instruction altogether. Thorson rightly tempers the optimism of earlier respondents to the “declinist” narrative. With her, we should ask to what degree we

can expect civic culture to reproduce itself through individual practice, especially as it encounters increasing threats.

This question directly relates to other questions about the contemporary media system, and in particular whether and how different online citizens encounter civic and political content – and opportunities for participation. Prior (2007) has explored the relationship between media choice and knowledge and participation, showing that the low-choice environment of the mid-twentieth century had the beneficial civic consequence of exposing large numbers of citizens – including those not predisposed to consume much political information – to news. With the fragmentation of media and increasing choice, many more citizens are able to forego news encounters if they choose. The same question is now asked about citizens embedded in social media: how much will politically interested citizens differ from those of less interest in the content they encounter? What consequences will this exposure have for knowledge and participation? Will citizens sequester themselves in “echo chambers” that contain only content of interest? Or will social and other contacts provide a measure of idiosyncrasy, and therefore diversity, of content forms?

The most recent analyses of these questions find, not surprisingly, complexity. People do seek out information in line with their beliefs and interests, of course, but evidence for intentional avoidance of content beyond those interests is not strong (Garrett 2009). The question, then, is to what degree citizens *encounter* information they would not otherwise seek out. Large analyses of the audiences of major news organizations’ websites indicate that when it comes to partisan information, there is a great deal of audience overlap – between the *New York Times* and *Fox News*, for example (Gentzkow & Shapiro 2011; Webster 2014). (Early analyses of the 2016 election may be revealing a deepening divide, however, specifically that a more insulated conservative news system has disattached itself from the mainstream; see Faris et al. (2017).) Optimistically, there is some evidence that social contacts may provide points of contact with information that individuals may not otherwise see, and that those social recommendations might override resistance based on partisanship or topical disinterest (Messing & Westwood 2012). However, there is concerning evidence of division between those who get any political news information – from one or both sides – and those who get none at all (Strömback, Djerf-Pierre & Shehata 2013).

The upshot of this research is that the overall “effect” of social media on spurring participation, if it exists, is small, though positive. Bimber and colleagues have rightly cautioned against expecting too much consistency in the effect of digital media on participation in a rapidly changing media environment and across political contexts as widely varying as different election seasons, much less other forms of political event (Bimber, Cunill, Copeland & Gibson 2015). More important, once we take into account the role of political interest in the relationship between digital media use and participation, many of the effects disappear, which suggests that the relationship

is much more associative than causal (Boulianne 2015). People who are interested in politics use digital media to pursue those interests. This means that, in terms of research, there are ever greater struggles to deal with the problem of endogeneity in our analytic models. And normatively, it raises the concern that the dream of the technological utopians two decades ago – that digital media might reduce society’s power differentials – might actually be reversed, lending more participation opportunities to those interested in and able to make use of them (a dynamic that Sidney Verba and colleagues (1995) saw in the mid-1990s).

5 Conclusion

Lance Bennett (1998: 741) has observed that “One of the great debates of our time is whether civic cultures based in the stable group formations of both pluralist and corporatist polities are dying.” The movement from the traditional civic culture to DIY citizenship tells the story of political participation’s evolution from its “classic” era in the mid-twentieth century to today as one of profound social, technological, and economic change. Perhaps the most powerful theme here is that of personalization, as individuals have become increasingly responsible for their way of life, their interactions with politics, and the information that they consume and, increasingly, produce and distribute (Bennett 2012).

Even so, a note of caution is necessary. Institutions, including parties, still matter. Who wins elections sets the frame for much of the policy that shapes civil society. We argue that there is a need to bring together the streams of traditional civic engagement, transformed civic engagement, and social movements. All are embedded in new and rapidly changing media ecologies. Further, these dynamics may not play out in the same way among the political left and right. Both traditional approaches to civic engagement and knowledge, and the social movement literature fail, in their own way, to differentiate the different values, motivations, and media ecologies of nations that are splitting in non-traditional ways, driven by right-wing populist reactions to both the new social movements and the liberal state. Civic engagement is more tightly bound with communication than ever. But it will also be shaped by new social and historical currents that will change its meaning.

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23 Political Advertising

Abstract: Campaigns' access to technology, the strategic methods they employ, and the effects of their political messaging are in flux in the contemporary media environment. In an overview of recent research, this chapter outlines the effects of political advertising and how changes in technology will influence the impact of political advertising on turnout, learning, candidate evaluation, and vote choice. The quality of the data available to researchers has improved, and political communication researchers are revising their methods, measures, and theories to better understand the effects of political advertisements. As the field relies on more interdisciplinary approaches, scholars are creating more tools to mimic real-world exposure across variable platforms and formats, increasing their use of strategic partnerships with campaigns and industry to develop software solutions, and considering more carefully how campaigns are targeting individuals and groups.

Keywords: political advertising, communication technology, campaign strategy, media effects, political communication, methodology

It is only fitting that in one of the most memorable campaign advertisements of the 2016 presidential election, "Role Models," television plays the role of anti-hero. The ad, sponsored by Hillary for America, opens with the camera panning across the faces of children engrossed in the television as Donald Trump's words narrate, before transitioning to a black screen with a single phrase, "Our children are watching." Aired nationally with targeted distribution in swing states like Virginia, Ohio, Colorado, and Florida, the ad was lauded as being highly effective for using Trump's rhetoric to frame the election as a moral choice.

Much like the direct and forceful effects alluded to in the ad, the Clinton campaign also seemed to embrace the power of television, outspending her opponent nearly 2:1 on televised ads. Despite the confidence implied by the campaign's large investment, research from the last ten years suggests political advertising's influence is nuanced. Television ads are less likely to be seen as a magic bullet, mobilizing, demobilizing or persuading the electorate, and are more likely to be seen as contingent on the media environment (Lau et al. 2017) and conditional on the stage of the race (Krupnikov 2011). These findings represent a shift in the sort of questions scholars ask, from "do ads matter?" to, "how might they matter?" and, "under what circumstances do ads matter?" Overall, this work has found that political advertising effects – while mostly small – can be meaningful depending on the message, the recipient, and the

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campaign environment. These effects, even at the margins, have consequences for voters' choices, political attitudes, and participation.

But the political advertising landscape is changing at the same drastic pace of all media, altering the logics and methods by which campaigns craft and deploy political ads. Because technology-induced changes to campaign strategies and tactics are evolving so quickly, it is difficult for researchers to keep pace. What do these strategic changes mean for how citizens experience campaigns, and what are the implications for how we understand the effects of political advertising? Recent work on campaign ads has sought to document and understand how technology-induced changes in tactics and strategies will ultimately shape advertising's influence on turnout and voting. Even as the fluid media environment is making the study of advertising effectiveness more difficult, innovations in data collection, processing, and research design have enabled scholars from across several subfields to develop new and inventive ways of identifying conditions under which political advertisements matter.

In this chapter, we discuss current research on political advertising effects, focusing on the ways campaign strategies and tactics have changed along with the media environment. Additionally, we discuss both the opportunities and challenges presented by changes to political advertising technologies. We also address progress made by the literature on campaign advertising over the last decade, and we discuss questions regarding the effects of advertising that remain to be answered.

1 The personalization of political advertising

One of the most consequential changes affecting the conduct and the study of political advertising is media and audience fragmentation. In the last twenty (or so) years, the target audiences for political ads have changed from mass media audiences following a few select channels, to scores of highly segmented audiences reached on just as many channels and platforms. Taken together, these changes suggest that describing political advertising as a form of mass communication is a misnomer.

In 2008, the number of television channels per household was more than six times what it was in 1985 (Webster 2014). This expansion of media choice allows television audiences unprecedented ability to enjoy their favorite kinds of programming at any time of day or night. Expansive media choice also allows media outlets and advertisers to target particular audiences with niche programming, or to narrowcast instead of broadcast. Meanwhile, improvements in data gathering and statistical techniques used for creating consumer and voter profiles make it possible to narrowly target advertising based on the known consumer and political behaviors of audiences for various types of programs. Survey firms capture demographic audience profiles of specific television shows or genres. When those data are coupled with voter histories

and demographic data on Democrats, Republicans, or Likely/Unlikely voters, campaigns can figure out which they need to target, and the programs or channels through which they can do so (Franz 2013).

As campaigns grow more adept at data mining voter profiles, ads are increasingly personalized, and channels and platforms that cater to segmented audiences are the preferred venues for disseminating political advertising (Franz 2013). If presidential campaign analytics suggest the candidate needs to do more to shore up votes among Southern whites, then buying ads in Southern media markets with a majority white population makes much more sense than buying ads on a national network. Ad buying is becoming increasingly fine-tuned to smaller geographic segments. For example, even though a majority of televised political ad spending went toward local broadcast television stations in 2012, recent election cycles have seen more spending on local cable television because it offers an even narrower target audience (Ridout, et al. 2012). Local broadcast ads are aired in specific media markets (Designated Market Areas [DMA] defined by Nielsen), which usually encompass several counties and often parts of more than one state. By contrast, subscriber-based cable systems typically serve single or smaller markets (“cable zones”) and sometimes allow ad targeting as low as at the neighborhood level. For down-ballot candidates in particular, the ability to target smaller geographic zones ensures more efficient communication with voters who can actually cast a ballot for the candidate. For presidential campaigns with increasingly precise predictions about what kind of likely voters will turn out to vote for their candidate with a little prodding, personalization and ad buying at the neighborhood level are also strategic.

Following a similar logic, presidential ad spending on national cable channels remains strong despite a nation-wide audience because most cable channels reach niche audiences like sports fans (e.g., ESPN) or home and garden enthusiasts (e.g., HGTV). Because modern campaign data analytics produce voter profiles that are easily matched with data on consumer preferences and behaviors, information about the political preferences of these segmented audiences is gleaned from known tendencies of sports fans and those who enjoy home and garden oriented programming. Thus, ads on national cable outlets can still be personalized because the channels are narrowcast. Given the efficiency of targeting and personalizing messages on national cable outlets, it is no surprise that only a few hundred ad spots were purchased on the major national broadcast networks – which reach a wider national audience – during the 2012 cycle (Ridout 2012).

These advances in targeting and personalized advertising also mean that parties and campaigns can make more refined group appeals through targeted ads. The ability to target specific groups raises new questions about which group members are more or less responsive to various kinds of identity-based appeals, and the effect of such appeals on electoral outcomes (Valenzuela & Michelson 2016). Testing the effects of group appeals in the contemporary media landscape presents a lot of challenges. In 2012, the Obama campaign spent more than \$20 million on Spanish-language ads, in an effort to appeal to Latino voters. The affordances of new

communication technologies mean that access to ethnic media outlets or outlets offering content in other languages is no longer limited by geographic media markets or even subscription cable services (Sui 2017). Broadband and mobile access to the Internet are just as likely to affect the likelihood that racial and ethnic audiences will be exposed to group-based advertising appeals as media selections are likely to be affected by (and affect) racial, ethnic, or political identities (Sui 2017). As such, it is extremely difficult to measure the extent to which group-based appeals can effectively mobilize (Valenzuela & Michelson 2016).

The most significant innovations in targeting, however, allow for even more individualized distribution such as that available through online advertising. Online advertising allows campaigns to purchase specific audiences they want to target, which is more precise than buying airtime during a program aired in a media market. Campaigns have specific ads they want to send to particular groups such as women, or young Latinos living in a certain location. Campaigns work with various online vendors (e.g., Facebook) to find the web audience they want (they can also provide lists of individuals they hope to reach), and pay for the opportunity to display content to those meeting certain demographic profiles and living in specific locations (Fowler, Franz & Ridout 2016). Even by 2014, the ability of the best funded political campaigns to identify target audiences exceeded their ability to create enough targeted ads to meet the demand (Kreiss 2016).

For the groups and campaigns that can afford digital staff and analytics, online campaign advertising provides the additional benefit of continuous message testing and development (Karpf 2016; Kreiss 2016). Following the 2016 presidential contest, Gary Coby, director of advertising for the RNC who worked with the Trump campaign, attributed much of Trump's success to a strategy of extreme message testing. The digital advertising team would test many variants of the same ad simultaneously, monitoring audience responses to each. Through an ongoing process of developing and testing online messages, campaigns learn which versions of particular ads produce the highest rates of audience engagement including clicks, likes, and donations. This continuous improvement on engagement metrics also increases the likelihood that digital platforms like Facebook will serve the ad to its users (Lapowsky 2016). Though campaigns get valuable information about ad success through testing digital ads, one limitation is that online vendors only provide a percent match rate, and do not provide information about which specific individuals are reached due to privacy considerations.

Though online advertising enables unprecedented levels of ad targeting and testing, television advertising is only starting to become individually-addressable. Although the technology exists to send a particular political ad to one household and send a different one to the house next door – through satellite television, some cable television systems, or a streaming service such as Hulu – political advertisers are only experimenting with this technology. For instance, both the Clinton and Sanders campaigns used individually-addressable ads in New York during the state's 2016

presidential primary contest,¹ but because the technology is so new and because it is so difficult to track this activity, exact figures on the scope of individually-addressable political advertisements are impossible to find.

2 Studying political advertising

As campaigns have become increasingly adept at targeting individuals, researchers have had to adapt their methods and measures to describe the ad environment and capture ad effects. Over time, the quality of the data available to researchers has improved. One of the earliest sources of data on political advertising in the United States was the Julian P. Kanter Political Commercial Archive at the University of Oklahoma, which was founded in 1985. The archive contains a vast collection of videos of political advertisements, including those from when ads first aired in the 1950s, and it continues to add to its collection. That said, the videos are not online, nor is there much supplementary data about each ad, such as where and how often it aired. Thus, the archive's collection is of limited use in describing the information environment that voters' experienced.

The Wisconsin Advertising Project, which was founded in 2000, is much more useful for studying ad effects. The project's tracking data, which go back to 1998, detail the location, timing, and cost of each ad airing on broadcast television and provide information on the content of each ad, such as its tone and the specific issues mentioned. These data were obtained from a commercial firm, Kantar Media/CMAG. The Wisconsin project was succeeded by the Wesleyan Media Project in 2010, which continues to provide detailed ad tracking information. These data have many advantages for studying ad effects because they can be combined with survey data to create individual-level measures of ad exposure (Freedman & Goldstein 1999). Still, as more advertising moves away from broadcast to local cable and online, it has become more difficult to capture the entire information environment with ad tracking data.

The Federal Communication Commission (FCC) started providing information on political ad purchases in 2012 by requiring that some television stations provide their political files online, a requirement that has since expanded to all television stations. Included in the requirement are local cable systems, whose data are missing from the Wisconsin and Wesleyan databases. While providing great detail about ad sponsors and their costs, these files do not speak to the content of ads, nor is the FCC's website easily searchable. Instead of providing a comprehensive database, one must download individual pdf files and transfer the information to a data file in order to do any

¹ <http://adage.com/article/campaign-trail/clinton-sanders-aim-tv-ads-key-households-york/303532/>

analysis. Thus, few researchers have used television stations' political files to study advertising.

But even more difficult than tracking television advertising is tracking online advertising, as there are no comparable requirements that websites maintain political files. Not only is there no public paper trail, but the indirect method by which online ad space is purchased through ad networks makes tracking even more complicated. While some online advertising is purchased directly (e.g., a campaign wanting to speak to Ohioans buys ad space on the website of the *Cincinnati Enquirer*), ad networks allow buyers to buy ad space across sites from a broker, rather than directly from many individual sources. Some of this indirect purchasing occurs essentially through a live auction, during which campaigns can bid on ad space in real-time. In this scenario, campaigns go to an ad exchange and, using pre-programmed parameters, bid on a certain number of impressions among people fitting into certain demographic categories and/or locations. In sum, the obstacles facing those seeking to comprehensively track online advertising are enough to thwart even the savviest researcher.

Several commercial firms have sought to overcome some of these data issues by following thousands of websites each day with bots that track the ads that appear, recording their paths and downloading ad images and videos. These firms can track national display and search advertising, providing cost estimates – how much each advertiser spent on a specific creative – for the activity they discover. There are, however, some problems with using such commercial sources for studying ad effects. One is cost. The firms that track online expect a market price for their information, something that most academics cannot afford. Second is scope. No firm we are aware of can track all digital activity across social media and mobile apps in addition to display and search. Even though we may now have, say, a rough estimate of how much Bernie Sanders's campaign spent on digital advertising in 2016 (from the campaign) or on display and search (from commercial tracking firm estimates), it is still nearly impossible to know whose eyeballs saw those ads. Further, these firms cannot replicate (and therefore track) all of the possible types of browsing activity users engage in that might lead to different types of targeted ads appearing even for display and search advertising. At best the firms can provide a sample of the content appearing, not a census like the Kantar Media/CMAG data provide.

One other potential source of data on digital advertising are the social media giants, such as Facebook and Twitter, who obviously have information on any online advertising purchased directly from them. These platforms, however, are difficult to track, as ad content also varies from user to user, and the companies have also typically been unwilling to share data with scholars.

Alternatives to tracking data such as observational media data, including self-reported exposure to ads, also have serious limitations. Changes to the communication landscape make the task of capturing the multitude of messages to which individuals are exposed across mediums more problematic. In this way, the challenges facing

the study of political advertising are similar to those confounding the study of media effects more generally. There are scores of articles explaining the limitations of self-reported media use measures (e.g., Prior 2009; Jerit et al. 2016; see de Vreese & Neijens 2016 for a review). People are simply terrible at accurately recalling and reporting their media habits, uses, and preferences. This is true even when respondents are asked simple questions about single programs, stories, or ads. Several researchers have proposed innovative means by which we can improve the accuracy of self-reported media use, and these provide promising short-term solutions for how we can utilize the data that are available at much lower costs (Prior 2013; Dilliplane, Goldman & Mutz 2013; Andersen, de Vreese & Albæk 2016). But, it is a high bar to ask individuals to reconstruct their entire range of media experiences over the course of a full day, especially now that access is constant and always at our fingertips via mobile devices. Survey-based improvements will not get us very far in solving the problem of how to measure the information environment accurately and reliably.

Lab and survey-based experiments are better equipped to accommodate and test the effects of ad messaging and deployment in an environment characterized by media choice. Experimenters are adept at embedding campaign messages in website banner ads, social media news feeds, and other digital forums. They can design studies testing how well various new forms of advertising work in these new settings. Researchers have also developed novel experimental approaches to dealing with the challenge of media selectivity (Vraga, Bode & Troller-Renfree 2016; Arceneaux & Johnson 2013). But most survey and lab experiments suffer from the common sample and external validity problems that plague all experiments. How subjects or respondents are exposed to the messages usually lacks some aspect of reality. For instance, the focused manner in which respondents receive the message may lack the realism of the typical distraction-filled information environment in which most individuals exist. Alternatively, for reasons of ethics or internal validity, these studies often rely on fictitious candidates or are conducted outside the actual campaign season. Many lab and survey experiments also rely on small and/or unrepresentative samples. All of this simply means that we can learn a great deal from these studies about how the features and platforms of digital ads influence their effectiveness, but we cannot be as certain about the overall impact of real ads on actual voters, or the outcomes of real campaigns.

Field experiments offer a promising route for contemporary studies of political advertising. Though they are limited in some respects, some of the most informative studies on the effects of campaign messaging are based on field experiments (Arceneaux & Nickerson 2009; Gerber & Green 2000); some of the most influential were conducted when researchers partnered with actual campaigns (Gerber et al. 2011). Scholar/practitioner field experiments have several specific benefits, namely, that they sidestep the major resource, ethical, and validity-based challenges facing political advertising researchers. For instance, Gerber and his colleagues (2011) partnered with a Texas gubernatorial campaign that allowed the researchers to randomly

assign positive ads to various media markets across the state. A simultaneous public opinion survey allowed the researchers to assess the magnitude and duration of the ad effects in a real campaign. While this study explored a unique electoral context – an uncompetitive race in which the incumbent aired only positive ads – it does point to the promise of employing experimental logic in an externally generalizable setting. We will return to the potential of field experiments in our concluding section.

Beyond these methodological issues, and the ongoing challenge of a lag between the study of ads and the technology used to deploy ads, theoretical arguments underlying predictions about ad effectiveness do not yet fully accommodate the new world of personalized political advertising. For theoretical development, political advertising can look again to the broader area of media effects for insights on how (or how not) to move forward. Before returning to that discussion, we review the literature on the effects of political advertising.

3 Political advertising effects

Scholars and political practitioners are keenly interested in the effects of political advertising. Research on the subject, in part, reflects both normative concerns about democratic processes and pragmatic considerations about what it takes to win campaigns. Normative concerns are driven by what attacks in advertising might mean for political participation and engagement, and political elites' ability to manipulate the mass public. Both concerns have been amplified as campaigns have grown more negative and campaign tactics have become increasingly professionalized. The strategic content of political ads, after all, results from extensive (and expensive) message testing by campaigns (at least at the presidential level). Campaigns utilize focus groups, field experiments, and online and telephone surveys to discern the effectiveness of their ads, much like marketing professionals. Indeed, the professionalization of political consultants has been a topic of much discussion and consternation in the political science literature (Sheingate 2016). And while much of campaign decision-making is opaque, political scientists look to the relationship between ad exposure and political outcomes to better understand the effects of political marketing.

This research can be further organized by whether it examines direct persuasion, such as vote choice, versus indirect persuasion, which is typically characterized by mobilization effects (Ridout & Franz 2011). Both require exposure to political communication, but the former necessitates updating vote preference because of such exposure, while the latter may be the result of dissonance-causing negative ads leading a person to stay home on Election Day (Krupnikov 2011). Most research on the topic falls into one of three broad categories: effects on turnout and participation, effects on political learning and knowledge, and persuasive effects on candidate evaluations and vote choice.

3.1 Advertising effects on turnout and participation

Negativity is on the rise in political campaigns, and ads are a major vehicle for it (Patterson 1996; Kaid 2006; Geer 2006; Greer 2012). Several explanations have been offered for the uptick in negative advertising. One is that campaign consultants believe that attack ads are more effective than positive ads (Iyengar 2011; Geer 2012). Another is that the increasing polarization of the parties over time has prompted contentious issue debates reflected in campaign advertising (Geer 2006; Greer 2012). Geer (2012) offers an additional explanation: the way journalists cover elections incentivizes the use of attack ads. Whatever its cause, the proliferation of negative campaign ads has generated normative concerns and a lengthy debate about whether negative campaign ads depress pro-civic behaviors such as voter turnout and political engagement.

Those who hand-wring over potentially deleterious democratic consequences from negative political advertising can hardly be blamed. Over the course of the last decade, negative (including contrast) ads comprised a healthy majority of all televised political ads in U.S. congressional races, and that number creeps towards 90% of televised ads in presidential races (Motta & Fowler 2016). In 2012, positive ads accounted for only 14% of ads aired in the presidential contest (Fowler & Ridout 2013). These figures are more striking when one considers the vehemence with which the American public expresses distaste for negative campaign ads (Brooks 2000).

Dislike of negativity is likely a reason why candidates who attack opponents may suffer a backlash, that is, a decline in favorable evaluations (Garramone 1985; Pinkleton 1997). Typically, attacks are successful in reducing the favorability of an opponent, but the favorability of the attacker also declines because citizens dislike the negativity (a backlash effect). When an outside group or political party launches an attack, however, the benefitting candidate may be shielded from that backlash (Brooks & Murov 2012; Dowling & Wichowsky 2015). In a slightly different context, a novel field experiment finds individuals genetically predisposed to negative affectivity are more likely to stay home after exposure to a negative mailer (Settle et al. 2016).

In part because citizens profess such a strong distaste for negative political advertising, the question of whether negative ads suppress voter turnout preoccupied the literature on political advertising for quite some time. Several early studies identified a depressive effect of exposure to attack ads. Both in the lab and in survey-based studies, researchers found that exposure to attack ads was associated with a lower likelihood of turning out to vote on Election Day (Ansolabehere et al. 1994; Ansolabehere & Iyengar 1995). However, several studies cast doubt on a broad demobilizing effect, some by finding no evidence of a relationship between negative ads and turnout (e.g., Garramone et al. 1990; Krasno & Green 2008; Wattenberg & Briens 1999; Brooks 2000), others by finding that negative advertising actually increases voter turnout (Finkel & Geer 1998; Franz & Ridout 2007; Goldstein & Freedman 2002).

One qualification to the evidence against a demobilizing effect is that the timing of negative ads may influence voter turnout. When negative ads against individuals' already chosen candidates are aired late in the campaign season, the conflicting information can induce vote choice ambivalence, decreasing the likelihood of turning out to vote (Krupnikov 2011). Negative ads, then, may only have a demobilizing effect among certain supporters, and only very late in the campaign.

Research investigating whether negative ads have broad participatory effects by eroding political efficacy and trust has produced mixed results. Though Brooks and Geer (2007) find that incivility and perceptions of unfair attacks do not reduce perceived efficacy, Mutz (2015) finds exposure to televised political incivility erodes trust, if only in the short term. Other studies corroborate null effects from negativity (Geer 2006; Jackson, Mondak & Huckfeldt 2009), but a meta-analysis identifies small yet systematic effect of negative advertising on trust, affect, and efficacy (Lau, Sigelman & Royner 2007).

While scholars have learned much about the conditions under which certain kinds of negative political ads mobilize or suppress turnout, or reduce efficacy and trust, trends toward micro-targeting and personalization make these effects increasingly difficult to study. Because ads are tailored and targeted across geographic areas, groups and demographic traits, tone is no longer uniform within the context of an electoral contest. Rather, effects on turnout depend on the method of advertising, how individuals or groups are targeted, and the amount of exposure to ads and other campaign messages.

3.2 Citizen learning from ads

The flip side of these potentially troubling aspects of negative advertising is that voters may learn more when negative ads are used. Despite Americans' self-reported intense dislike for negative ads, the appeal of negativity has been widely demonstrated in the field of cognitive psychology. In answering the question of whether negative messages are "better" than positive messages, scholars have demonstrated that negative information has a more powerful and enduring influence on individuals than neutral or positive information (Soroka 2014; Soroka & McAdams 2015). Individuals pay more attention to negative information for longer periods of time and give it more consideration than positive information when making decisions (Baumeister et al. 2001). Negative information is also more memorable than non-negative information (Baumeister et al. 2001; Ohira, Winton & Oyama 1998; Pratto & John 1991; Robinson-Reigler & Winton 1996; Soroka 2014). Research shows exposure to political ads – including attack ads – makes viewers more attentive and may even educate them about candidates and policy issues (Brians & Wattenberg 1996; West 2005; Kaid 2006). Furthermore, fear-based emotional appeals, common in attack ads, are known to persuade (Brader 2006).

Empirical evidence also suggests that negative ads are simply more likely to contain information helpful to voter decision making, relative to positive ads (Geer 2006). Because attack ads make claims that need be defensible, they are more likely to contain issue-specific information and are more likely to cite at least one outside source for verification (Motta & Fowler 2016). When negative ads are specific and policy-focused, voters will sometimes evaluate them as helpful, even as they report disliking negative ads in general (Mattes & Redlawsk 2015; Motta & Fowler 2016).

Early work on citizen learning from political ads identified effects resulting from exposure to both negative and positive ads (Freedman, Franz & Goldstein 2004; Ridout et al. 2004). Ads were initially thought to be especially informative among potential voters who were generally less attentive to politics (Patterson & McClure 1976), though more recent work fails to back that conclusion. One study finds no discernable differences in rates of learning across highly attentive and less attentive voters (Freedman, Franz & Goldstein 2004) while another suggests that more attentive voters learn more from advertising, creating a knowledge gap (Valentino, Hutchings & Williams 2004).

Citizen learning from ads is also shaped by characteristics of the ads themselves, such as the tone in which they are delivered and emotional appeals they contain. As we describe above, negativity in political ads enhances attention and recall of information to which individuals are exposed (Brader 2006; Geer & Geer 2003; Lang 1991), and raises general levels of campaign knowledge (Craig, Kane & Gainous 2005; Stevens 2005). Emotional appeals also exert an impact on learning from campaign ads. Emotional appeals that induce perceptions of threat and anxiety, such as appeals to fear, motivate more intense information-seeking and attention (Brader 2006) and can result in higher rates of recall for relevant information in campaign ads. Similarly, Banks (2014) found that when a political ad on crime for a mayoral candidate uses anger appeals, racial thinking was more likely to manifest. In the same vein, when faced with congressional Tea Party candidates, anger primed racial resentment in vote choice (Banks 2014).

Research on political ads and knowledge clearly illustrates that learning from ads is highly conditional on features of the ads. That the use of specific issues, emotional appeals, and negativity shapes the degree to which people learn from political ads means that understanding ad effects on learning is complex. Trends toward ad personalization will only intensify the difficulty of tracking which individuals and groups were exposed to certain compilations of issues, emotional appeals, and degrees of negativity.

3.3 Persuasive effects on candidate evaluations and vote choice

Scholars and political practitioners are also naturally interested in what we might think of as the big question: do ads persuade? For example, aggregate-level studies

examining whether campaigns' investments in ads are reflected in their vote share have produced mixed evidence (e.g., Shaw 1999; Franz & Ridout 2010). While simulations suggest that, in the absence of political advertising, Al Gore would have won the 2000 presidential election (Gordon & Hartmann 2013), the broader research suggests effects are generally conditional. For example, campaigns airing more ads tend to see some payoff at the ballot box, but the size of the effect depends on the electoral contest. This work suggests that ads can influence presidential election outcomes, especially in competitive states.

Work on individual-level campaign effects, which typically combines survey data with ad tracking data at the market level (Goldstein & Freedman 1999), yields similar findings. Across presidential elections, scholars consistently find exposure to candidate ads negatively affects voters' evaluations of the opponent (Franz & Ridout 2007; Ridout & Franz 2011). When it comes to voting for the sponsor of the ad, however, exposure to political advertising had a null effect in 2000 but increased both favorability and vote intentions for John Kerry in 2004 (Franz & Ridout 2007). Also in 2000, leveraging a natural experiment in which some voters were exposed to campaign ads in non-battleground states, Huber and Arceneaux (2007) find that citizens are persuaded by ads but do not necessarily learn more or mobilize as a result. For Senate races, Goldstein and Freedman (2002) uncovered similar patterns in 1996, with campaign ads exerting a positive effect on the sponsoring candidate's support as ads for both incumbent and challenger increased. This result was replicated for competitive races and open-seats (Ridout & Franz 2011).

So while effectual under some circumstances, these small and sometimes mixed effects may be the result of unequal information flows. One might think of campaign ad spending much like an arms race, in which campaigns air ads to keep up with their opponent, not necessarily to gain an advantage (Sides & Vavreck 2012). Thus, ad effects are unlikely to be large when the candidates are well-funded and resources are matched. In contexts where spending is unequal, or one campaign is more strategic in the deployment of ads, political advertising can exert a sizable effect on vote choice. For example, campaigns direct ads to television programs they know skew Democratic or Republican in efforts to buoy support among their base or sway undecided voters (Ridout et al. 2012). Campaigns also deploy ads using emotional appeals (Ridout & Searles 2011) and women's voices strategically (Strach et al. 2015), in efforts to persuade specific groups of voters.

Changes to the information environment and to political campaign strategies also make it more difficult to study the persuasive effects of political advertising. As we discuss in the above sections, it is increasingly difficult to measure the ad environment comprehensively. In the context of persuasion, the inability to accurately measure ad advantages is highly problematic given the importance of differences in message intensity (Zaller 1992). This is especially true given the increasingly interdependent relationship between paid and earned advertising.

3.4 The effects of paid and free advertising

Recent years have witnessed an increased interdependence between political advertising and campaign news coverage (Geer 2012). Increasingly intense economic competition in the news industry has incentivized more and more ad-focused campaign news stories, but the general increase in media coverage of political ads has been ongoing since the 1980s (Geer 2009; Ridout & Holland 2016).

There are numerous reasons journalists like to cover political ads. They are well designed to serve as ready-made campaign news stories because they typically include conflict, negativity, and campaign strategy. These characteristics are common fodder for campaign news (Ridout & Smith 2008; Fowler & Ridout 2009). Political ads are particularly attractive as the basis of televised campaign news stories because they come with their own audiovisuals to accompany the story. As coverage of ads increased, researchers grew interested in whether this “ad amplification” produced discernable effects on the electorate. If airing the ads themselves can affect turnout, educate, and persuade voters, should we expect that news coverage of ads produces additive effects?

Perhaps unsurprisingly, media attention to political ads favors negative ads. Negative ads fit neatly within popular use of the “game frame” in campaign coverage, which casts stories about elections in terms of who is winning, who is losing, and the strategic tactics campaigns employ (Ridout & Fowler 2012; Geer 2012). While game frames and negativity typically produce good ratings, this kind of ad coverage has the side effect of leading the public to perceive that campaigns are more negative (Ridout & Fowler 2012). Such ad amplification is another way that political advertising influences voter perceptions about candidates and campaigns, but as the information environment becomes more complex, so do efforts to understand these effects. Most studies of the relationship between political ads and campaign news coverage have necessarily focused on the volume of ads in each media market and campaign coverage from local media outlets. But as exposure to both ads and news is becoming increasingly personalized, it is more difficult to define which audiences are subject to amplification of what messages. Meanwhile, election news coverage is increasingly covering the social media posts of candidates and campaigns, amplifying another form of direct campaign messaging to voters and adding further complexity to the layering of messages in the campaign environment (Stromer-Galley 2017).

For years researchers have accounted for variations in ad advantages at the media market level (Freedman & Goldstein 1999), but today there is so much else that needs to be measured in order for researchers to fully understand the conditions under which political ads persuade, inform, and mobilize. We need measures that take into account variation across the platforms and channels through which ads are delivered (i.e., ad content across local cable systems, websites, and social media platforms) as well as measures that take into account variation across individuals in terms of

their media selections (i.e., how much they watch various broadcast stations, and local and national cable stations, and in their use of particular websites and social media). Add to this the need to account for which targeted ads are directed at them, through advertising online or individually-addressable advertising on television, and how these targeted messages interact with their identities, preferences, and political knowledge and interest. Despite developments in measurement and tracking, the bar keeps getting higher.

4 The way forward

Scholars have made great progress on studying the content and effects of political advertising, but the medium continues to change with technological advancement, leaving scholars constantly struggling to keep their methodologies up-to-date. Technological and strategic changes to political campaigns are bringing new complexity to the ad landscape and the conduct and effectiveness of ad campaigns. These changes inevitably invite changes in the methods and theories we use to understand the role of political advertising in contemporary campaigns.

We have outlined what we know about political advertising effects and how technological changes are shifting current understandings of how ads influence turnout, learning, and candidate evaluation and vote choice. Some of these changes appear to be highly consequential and therefore deserve immediate attention from researchers. These include the difficulty of tracking ads in complex information environments, problems of measuring the individual-level effects of exposure to ads delivered across a host of different platforms, and the ongoing challenges of external validity and causal identification as ads become increasingly difficult to track.

In particular, the shift to addressable advertising raises many questions. This technological adaptation facilitates campaigns' precision, allowing candidates to target specific voters with the messages that they want to hear. Such micro-targeting may reassure uncertain voters that their concerns matter as, for example, the new voter who thought politics was for her parents is convinced that the candidate really *does* care about the environment. While it is still unclear whether campaigns can effectively deliver personalized messages given the available voter data (Hersh 2015) and whether such personalization helps or is prone to backfiring (Hersh & Schaffner 2013), perhaps more troubling is the uncertainty around researchers' ability to identify causality in a world where neighbors see different ads, fine-tuned to their individual preferences.

Similarly, changes in how campaigns buy ads – moving from sales contracts with individual television stations to dynamic purchases on ad exchanges – add complexity to an already fragmented media environment. As bidding on online ad space happens in real-time, using preset parameters known only to the campaign,

on some unknown subset of websites, even the most diligent ad trackers have a hard time keeping up. The best solutions to tracking these ad buys are far from ideal, and too costly for most scholars to entertain.

Even if scholars had perfect measures of individual-level ad exposure, they still must grapple with the fact that ad effects are likely conditional, small, fleeting, and thus difficult to detect. Thus, scholars must continue to innovate when it comes to research design. One good example of research that pushes the field forward is a study by Lau and colleagues (2017). They use an experiment to situate campaign ad effects in a media context, finding that exposure to negative ads within an ideologically diverse media environment (as opposed to an ideologically neutral environment) results in affective polarization.

What else can we do to advance our ability to accurately and reliably capture ads in today's media environment? Ideally, the growing contingent of scholars with coding and big data skills required to develop technological infrastructures and software solutions will continue to innovate and collaborate. Drawing political scientists, computer scientists, and communications scholars together brings the necessary expertise and tools to the table. There are existing examples of interdisciplinary models working in large-scale, public-facing projects (e.g., Stromer-Galley et al. 2016; Zhang et al. 2017; Hemsley et al. 2017). Scholars can also mirror the logic of data analytic campaigns, innovating across substantive and technological areas, and testing these approaches as they go along (Kreiss 2012). Efforts to increase partnerships between non-profits and government agencies on field experiments is also promising (e.g., Levine et al. 2017). The challenges lie in enabling comprehensive collection across variable platforms and audiences in a manner that allows data storage for eventual low-cost public use.

To the extent that future ability to track ads and exposure may be limited, researchers should continue to innovate and improve the other means by which we can measure the effects of exposure to various kinds of political ads. Given the measurement challenges already outlined in this chapter, we need to develop and refine tools that more effectively mimic real-world exposure across variable platforms and formats in which ads are now displayed, and methods and measures that avoid problems of self-reported bias.

Researchers are already making good progress on these fronts. Numerous experimental studies utilize designs and stimuli that display content to participants in realistic settings such as online news feeds (Searles et al. 2017; Kalmoe et al. 2017). Research on mobile technology and media use is quickly expanding what we know about how the effects of media messages vary across screen sizes and types of tablets and smartphones (Searles et al. 2017; Dunaway et al. 2017). The need for research on the effects of mobile advertising is increasingly urgent given the growth in spending on mobile digital advertising (Lu & Holcomb 2016).

Studies tracking large-scale user data (Bakshy et al. 2015) have enormous potential to inform us about individual-level exposure to various kinds of political messages

across an array of digital devices and platforms, and similar designs can track ad exposure. But these studies require well-developed skills and technological resources suited for big-data, and may not tell us much about the effects of exposure so long as the rest of individuals' information environments are not captured.

Field experiments continue to offer much promise for understanding ad-based effects in a world in which we cannot accurately measure the complexity of the information environment. In addition to continually refining our techniques in experimental labs, partnerships between academics and practitioners for field experimental work is important to offset the external validity problems associated with lab-based studies and the inaccuracies of self-reported media use associated with survey-based studies.

Experiments based on eye-tracking and physiological data such as skin conductance (GSL) and heart rate variability (HRV) are especially attractive for measuring the effects of ad exposure and avoiding self-report bias (e.g., Soroka 2014). These methods have additional benefits for measuring responses to political ads in particular. One is that they are well suited for measuring emotional reactions to media messages. Soroka (2014) and Soroka and McAdams (2015), for example, capture participants' HRV and GSL at five second intervals while they watch several positive, neutral, and negative news stories. These measures avoid response bias and can also pinpoint precise moments in the video where the content is most arousing (GSL) and attention-grabbing (HRV). Given the centrality of emotions in the effects of political advertising (Brader 2006), precise measurement of responses to emotional appeals and tone is critical. Physiological measures offer a significant improvement over retroactive response sets to questions asking participants how they "felt" while watching an ad (but see Wagner et al. 2014; Searles & Mattes 2015).

Eye-tracking methods offer similar improvements in accuracy and precision (Vraga, Bode & Troller-Renfree 2016). The most sophisticated eye-tracking software records the eye movements at a rate of 120 hz, capturing what researchers and the marketing industry call the visual attention stream, or top-down cognitive processing (Bode, Vraga & Troller-Renfree 2017). Somewhat similar to the advantages of heart rate and skin conductance, eye tracking offers more precise information about people's reactions to specific features of media messages. In addition, eye-tracking software is capable of tracking continuous measures of pupil diameter, a measure of cognitive effort. Researchers' ongoing interest in the learning and persuasive effects of ads makes these measures of cognitive processing and effort especially attractive. When specific elements of ads hold audiences' attention and facilitate easier cognitive processing, learning and recall are enhanced (Kim & Sundar 2015).

An important critique of political advertising research is its failure to incorporate marketing approaches and perspectives (Ridout 2014). Especially when considering the need to study ad effects across platforms, eye-tracking methodologies offer the additional benefit of bringing scholarly research closer to industry practice. Eye tracking is considered a gold standard method for measuring attention to features of

media messages, whether they display on paper, television sets, computer screens, or mobile devices. In fact, an important capability of eye tracking is that it can be used to determine how exposure to the same ad on different platforms elicits different responses from audiences (Searles et al. 2017; Dunaway et al. 2017; Dunaway & Soroka 2017). In light of our recommendation that scholarly work on political ads would benefit from adopting the practices for large scale message testing employed by well-funded campaigns, the precise message testing capabilities afforded by eye-tracking and physiological measures are promising. Some software suites (e.g., iMotions) allow simultaneous tracking of eye-movements, heartrate, and skin conductance, which allow simultaneous measures in response to audio and visual ad content.

Beyond the methodological hurdles outlined, we must also update our theories to take into account not just selective exposure and imbalances in the ad environment, but how campaigns are targeting individuals and groups. Hersh and Schaffner (2013) raise important questions about what narrow approaches to mobilization (group-based appeals offering special promises for select groups of voters) mean for voter impressions. They find that the error in voter targeting might be dangerous for candidates. Voters punish candidates when they are mis-targeted. As techniques for targeting ads become more refined, error may dissipate, but targeting is complex and prone to at least some error, which will vary according to the analytical sophistication of campaigns (Nickerson & Rogers 2014).

Though their study makes use of a field experiment based on phone bank calls rather than televised political ads, Valenzuela and Michelson (2016) provide helpful theoretical development by examining the role ethnic identity plays in the effectiveness of developments in targeted group mobilization efforts. Their findings demonstrate that the effectiveness of ethnic group-based appeals are conditioned on the strength of ethnic identity among targeted populations. Kam, Archer, and Geer (2017) evaluate the effectiveness of gender-based appeals on emotional, cognitive, and persuasive dimensions. They acknowledge the importance of considering how ads crafted for women may affect the responses of all voters. Their findings verify those from some of the recent literature on gender and women in electoral politics: gender based cues are dependent on the electoral context (Krupnikov & Bauer 2014) and are typically not sufficient to override partisan identities (Hayes & Lawless 2015). More importantly for the discussion here, they highlight the complexity of anticipating how group-based appeals will resonate with voters in campaign settings.

Changes to communication technology, namely, media fragmentation and the proliferation of new devices through which people consume media, have forced scholars to rethink their broad theoretical orientation toward media effects. Research produced in the 1980s and 1990s largely discredited notions that media effects were minimal (Iyengar & Kinder 1987). Yet today's active audiences, empowered with choice among numerous platforms and channels for media consumption, have revived the debate on minimal effects (Bennett & Iyengar 2008). But this scholarly introspection has been largely limited to how citizens acquire political information through news.

Media choice and personalization of content have not been as theoretically central to the literature on the effects of political advertising, though media fragmentation and the multiplicity of platforms are clearly recognized as structural changes through which targeting is possible.

It is important to consider how these changes affect our general theoretical orientation toward advertising effects. Do targeted ads have the same persuasive and learning effects if audiences encounter those ads with a store of political information that largely reinforces their existing predispositions? Are the effects of ads enhanced or attenuated in settings of high media choice? To what extent do the strength of partisan and ideological identities and political interest condition the effects of ads? Recent work on the implications of media choice, for example, underscores the importance of people's relative preferences for news over entertainment (Arceneaux & Johnson 2013). This has clear implications for the effects of news selection and avoidance, but it raises additional questions with respect to the effects of political advertising. Given that political advertising is often targeted through entertainment programming, should we expect stronger learning and persuasive effects from ads when entertainment audiences are targeted? Similarly, would the effects from these ads be minimal among news audiences who are ostensibly more interested in news and more knowledgeable and more partisan?

It is clear that rapidly unfolding changes to the media environment and developments in campaign strategy have presented challenges for social scientific studies of political advertising. And yet scholarly innovations have yielded critical insights about how consequential political advertising is – even if the answer is that political advertising effects are nuanced and often small. In fact, scholarly innovations in research design and data analytics deserve a lot of the credit (or blame) for the increasingly sophisticated use of data analytics in campaigns (Issenberg 2012). The bar is getting higher as technology and campaign strategies continue to evolve, but as technology advances and political campaigns rapidly innovate, so will social scientists.

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24 Media Development

Abstract: Media development over the last 50 years has evolved from modernization efforts to build radio capacity in rural or hard to reach areas to teaching activists and citizen journalists how to use digital and social media to push for political and social change. As media have changed, so too have the efforts to build and sustain media development initiatives across different societies. This chapter situates media development within the evolving media ecology. It first provides an historic view of early media development initiatives that targeted newly independent nations emerging from colonialism in the 1950s and 1960s. The second part of the chapter presents insight into contemporary media development that support the newer forms of media (digital, social) as additional tools in social, economic and political development. Specific examples from the former Yugoslavia, Middle East, Africa, and Europe illustrate both the potential of media assistance to complement other national development initiatives as well as some of the problems faced in media development.

Keywords: media development, nation building, regulation, donor assistance, government control, activism

Communication in all its forms (interpersonal, group, organizational, mass, and mediated) has been tied to economic, social and political development for over 50 years. Early media scholars argued that mass media, especially radio, had important roles to play in national development (Hornik, 1988; Stevenson, 1988). Schramm (1964) observed that media coverage of relevant and useful information can support all types of development because media provide information that help people better understand their world. The information carried by media can introduce new ways of thinking and can potentially change attitudes or behaviors. Today, media development organizations have many types of media such as television, online media, and digital and social media to consider as they work on development initiatives.

This chapter considers media development as one part of the media ecology operating across the world. Media development includes the initiatives of various institutions, both domestic and foreign, that work to create and sustain free (independent from influence), diverse (multiple types of media), pluralistic (representing different perspectives), and sustainable (culturally and economically) media systems. All types of social, political and economic development go hand in hand with media development. Abbott (2016) noted that “most media development programs operate in a situation where there is parallel transition of many aspects of a society that is formerly state controlled or part of an existing authoritarian or semi-authoritarian regime. Against this backdrop the role of the state and the ability of broadcasters to have any degree of independence matters a great deal for media development” (9). Media

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development over the last 50 years has evolved from modernization efforts to build radio capacity in rural or hard to reach areas to teaching activists and citizen journalists how to use digital and social media for activism. As media have changed, so too have the efforts to build and sustain media development across different societies.

The purpose of this chapter is to situate media development within the evolving media ecology. The first part of the chapter provides an historic view of early media development initiatives that targeted newly independent nations emerging from colonialism in the 1950s and 1960s. This section will explore how media development activities from both government and external actors have fostered the creation of media systems as one part of the national development process. Media helped to build national identity and national unity in newly formed states. Because communication is a powerful tool, in some nations, *internally fostered media development* supported totalitarian control. Sometimes the changes to media are shaped by *external forces*. The second part of the chapter provides insight into current media development initiatives, mostly from external or supranational actors that support the newer forms of media (digital, social) as additional tools in social, economic and political development. Specific examples from the former Yugoslavia, Middle East, Africa, and Europe will illustrate both the potential of media assistance to complement other development initiatives as well as some of the problems faced in media development.

1 The roles of media in national development

Much attention has been given to defining a nation and exploring how nations are created and maintained (James, 1996). At the most basic level, a nation exists by the consent of a people and a recognition of a common heritage that is communicated by various social practices (Hobsbawm, 1994; Yack, 1999). Nations in all stages of economic, social and political development rely on nation building to accomplish specific national goals. Nation building is a strategic process that involves various resources and policies, and the media provide one of the most important tools for nation building – information and identity.

1.1 Creating and sustaining a nation

What is a nation? How are nations created? Questions about nations are not easily answered because building a nation requires more than just a “declaration of independence.” Nation building is a process that necessitates interactions between citizens and between the state and other nations. Indeed, as Anderson (2006) notes individuals and nations understand themselves in relation to others, and in relation to what they are not.

The term “nation building,” is associated with building political institutions in a newly formed (or transformed) state (Huntington, 1968). New institutions had to mediate the demands of citizens for roads, schools, fire protection, and personal safety. Nation building in this approach most accurately describes “institution building.” The creation of institutions such as political parties, non-partisan professional organizations, and nongovernmental organizations supportive of the current government is an important part of the nation building process. Other less tangible conditions are also necessary. For instance, national identity and national unity are integral parts of the nation building process.

The creation of a national identity is a foundation of the nation building process (Scott, 1966). A national identity can be defined as the conscious identification of a group of people with shared national goals. People often have many different identities – religious, ethnic, professional – that define who they are and what values they hold. Efforts to build national identity seek to create a loyalty to the nation that supersedes local or ethnic loyalties. National identity helps a nation to maximize its development potential (Scott, 1966). Communication campaigns create national identities that allow a nation’s people to think together and act together (Deutsch, 1963). Communication is a central part of nation building because mediated communication channels act as relationship building tools that bring citizens together and, in times of crisis or threats, can help to unify them. A national identity is a prerequisite to national unity and, therefore, must be part of the initial stages of nation building.

National identity and nation building are all created, maintained, and nurtured through various communication efforts. Interpersonal communication, mass media campaigns, and government policies all contribute to these important national communication initiatives. Yack (1999), however, noted that state controlled broadcast media (radio and television) are primary tools in many nation-building programs. Connor (1994) agreed, suggesting that one-way communication, from a national government to the people, contributes to nation building.

1.2 Theoretical foundations of media development

Karl W. Deutsch argued that individuals and small groups became nations when various communication mediums allow people to share common social habits (1963, 1966). For Deutsch, social integration of individuals, groups, associations, and institutions was directly related to communication channels. It was communication channels that transferred information from one group or network to others and built the relations necessary for attaining national goals. More specifically, a nation is enacted by the communicative competency of both the government and its citizens (Deutsch, 1963). This communication competency allows nations, especially

ethnically diverse nations, to have cooperative relationships that achieve national goals. Integration, through various communication channels, is the means through which nations are built. Integration, through communication, creates a collective national consciousness. Mediated communication channels such as print, radio, television, and now digital and social media, create a collective consciousness that leads to national integration

One of the earliest and clearest views on how the media contribute to development was *Four Theories of the Press* (Siebert, Peterson, & Schramm, 1956). Siebert et al. identified four forms of media ownership: authoritarian, libertarian, Soviet/communist, and social responsibility. Nerone (1965) argued that these four models laid the groundwork for additional models, including a development model of the press, where media contribute to national objectives.

Since the 1950s, as new nations emerged, scholars have looked at the roles for mass media to help build economically viable, democratic societies. Lerner suggested a “political development model” that viewed mass media, back then print and radio, as catalysts for democratization (1958). Later scholars including Schramm (1964) argued that there was a relationship between media content, reach and economic development. As people had greater access to media, they had greater chances for economic and political empowerment.

The influence of media was not just in providing information about farming, government policy or health. Media carried messages that actually helped new governments build their nations. Deutsch argued that individuals and small groups became nations when various communication media allow people to share common social habits (1963, 1966). Both interpersonal and mass communication were need to create *social integration* of individuals, groups, associations, institutions, and networks. In the 1960s, scholars believed that communication channels allow for the transfer of information from one group or network to others. Although a slightly outdated “sender receiver” model of communication, the conventional wisdom was that media could build the relations among people as they worked toward national goals. Under this approach, a nation is brought together by mediated communication channels such as print, radio, television, and today, digital and social media. Rogers’ diffusion of innovations research (1962) provided additional insight into role of both media and interpersonal communication in the adaption of innovations such as farming principles or health.

Media organizations are crucial to the development of civil society (Taylor & Kent, 2000). Civil society is about tolerance of different opinions and it embodies the “evolution of cooperation and trust among citizens” (Hadenius & Ugglä, 1996, p. 1622). Civil society is a communicative process grounded in information, communication, and relationships. Media organizations that are independent of political influence perform an important function in civil society (Ramaprasad, 2003). They disseminate factual information that people use to make decisions. Moreover, because of the agenda setting function of the media, they are opinion leaders on key

topics. The media also serve as watchdogs to ensure that government officials and businesses are held accountable for their actions (Ramaprasad, 2003). The media are “the most critical of all civil society institutions” because they allow for communication between institutions, organizations, the government, and the public (Shaw, 1996, p. 31). The next section explores government-guided media development.

1.3 Government sponsored (internal) media development

Development media scholars such as Lerner and Schramm suggested a prosocial approach to media content. As the role for media for economic and social development became clearer, national governments devoted resources to media as part of the overall development strategy. Governments created programming about agriculture, literacy, hygiene and health. National governments devoted resources to media hardware and infrastructure to help their nation grow.

Yet, overtime, media became viewed as a tool of government power rather than a tool of citizen empowerment. Sometimes, government controlled media became the only acceptable media channel and dissonant perspectives or outlets were outlawed or marginalized. In many countries, the media organizations and institutions that were controlled by the state disseminated propaganda. Repressive governments used these mass media channels to control public opinion. In these cases, media development initiatives actually *narrowed* the content and the flow of information across society rather than creating diverse perspectives. This practice had detrimental effects on the other parts of national development including the economy and political sphere because new ideas, innovations and perspectives were stifled.

Case studies from the former Soviet Union, Africa, the Middle, Asia and Latin America suggest that many nations have treated media channels and content as tools of the state. For example, the control over Russian media started before the birth of the Soviet Union. Every group from the Czars, to the Bolsheviks, to the Communists and Vladimir Putin have sought to limit freedom of speech and press. Newspapers such as Pravda and Izvestia and television stations like Channel One have been controlled by whoever is in power. In this model, editors and journalists follow the “party line” and the dominance of the state has been ensured. Journalism education was essentially training in pro government propaganda. Media development under this Communist/authoritarian model of the press (Siebert et al., 1956) created media organizations that were economically and politically tied to the state.

Significant challenges to the Soviet approach to media ownership occurred in the late 1980s. Authoritarian style media in the Soviet Union, Yugoslavia and other Communist states had lost legitimacy and were viewed as detriments, rather than facilitators, to development. Similarly, in Africa and Asia, government media were challenged when media such as BBC and CNN became more readily available.

Government-owned media do not die when a nation makes a political transition. They are too valuable to be allowed to die. Instead, government owned media become coopted by the new political elites when they take control over the media institutions, infrastructure and content. One example is in the former Yugoslavia that will be discussed later in this chapter. As Yugoslavia disintegrated in 1991, nationalist leaders in each of the republics seized the local and regional media outlets and changed the content from “pro Yugoslavia” to “pro Serb, pro Croat or Pro Bosniak” content to support resurgent ethnic identities. Media experts and scholars have cited the nationalist control of the media in Serbia, Croatia, and Bosnia as partially responsible for the civil war and ethnic cleansing that occurred in 1991–1995 (Glenny, 1995, Taylor & Kent, 2000).

In Africa and Asia, when there are coups or forced political transitions, the national broadcaster or the major newspapers are one of the first places where government troops or protesters take over. Additionally, dissonant voices including media, bloggers, writers and other people who participate in the information economy are also silenced through fear and intimidation during transitions. In some cases, government officials shut down the media to prevent a coup or shut down the media during a coup and begin to use the existing media to disseminate the coup leaders’ propaganda. For example, in May 2014, the Thai military staged a coup after months of protests. The military’s first statements included the following “all state-run, satellite and cable TV providers have been ordered to carry only the signal of the army’s television channel” (Botelho, Hancocks & Olarn, 2014). In 2016, Turkish President Recep Tayyip Erdogan shut down oppositional media and arrested journalists sympathetic to the failed military coup. Each of these actions shows that media organizations and the channels of communication are viewed as a tool in political struggles.

Media development efforts created by national governments present real challenges to media independence. A second type of media development occurs when external groups contribute to the development of media in a nation.

1.4 International (external) media development

A second type of media development is the development assistance that has been a hallmark of democracy and governance programs by the United Nations, and other national diplomacy efforts. This second kind of media development, fostered by external actors, seeks to build (or rebuild) the media infrastructure of a nation, train media in international standards of journalism, create enabling frameworks to support freedom of speech, and develop a financial base to support media outlets and minimize government or political interference. This approach proceeds from modernization theory that has promoted “Western-style, top-down mass media would transform developing societies into “modern” nations along the same path as their Western

counterparts—seems to be still unconsciously driving much of contemporary practice even though the theory itself has been long discredited” (Sussman Pena, 2012, p. 5).

Just how big is international media development assistance? Over a billion dollars has been spent by non-US organizations in media assistance since the late 1990s. Another \$600 million had been spent by the US government in the 1990s to support international media development and journalism training. Over the last decade (2008–2018) USG funding for media assistance has dropped significantly from 135 million in 2008 to only 76 million in 2012.

Sussman Pena (2012) reviewed 20 years of international media development programs for the World Bank Media Map project. Sussman Pena concluded that:

The consensus among media development practitioners is that media development supports all other development, both economic development and good governance, directly and indirectly. At the same time, donors often use media to promote stability, democracy, and development. Donors to media development rarely articulate a precise theory of change at the outset of their interventions. (p. 4)

Cary (2013) has advocated for supporting media independence as part of international development assistance. Externally funded media development projects are generally created on a country-by-country basis. Media development needs in Bosnia and Herzegovina after the war will be different than media development initiatives in post-Taliban Afghanistan. Cary noted: “media development needs to be seen not just as an important element in civil society but as an equally important part of economic and overall development, and should be treated as such in the aid process” (2013, p. 8).

There are different approaches to media development. Some programs are stand-alone media development initiatives that seek to strengthen an entire media system. These projects have large budgets ranging from \$4 million to \$25 million dollars. These projects are highly competitive with multiple implementers bidding on the project. Stand-alone programs have formal offices, local staff, international experts, and control their own budget. These types of programs take a macro approach to building up journalism education and training, media leadership, media professionalism, and media institutions that create an enabling environment for an independent media sector. Project activities combine local experts with international experts. The Internews Afghanistan Media development program was a \$22 million project that sought to create radio stations around the nation, develop the capacity of local media organizations and news agencies to gather and disseminate the news and information needed to support the transition to peace and democracy. Country-specific programs take a system-wide approach and tailor the media development activities to the unique cultural, economic and political context of the nation. The stand-alone media programs contribute to larger assistance programs in the nation but they are solely interested in building media capacity.

The second type of media development program occurs when a donor embeds a media component into a larger development program. Here, media development

is one part of a broader assistance package to a nation or region. For instance, the European Union included a small media component in its Support to Government of Jordan to Combat Violent Extremism (CVE). In this project, media initiatives are tied to other CVE programs such as the rehabilitation of fighters when they return home. In this approach, media development initiatives focus on niche topics that align with the larger program objectives. There may not be an office dedicated to the project.

A third type is a regional and topical approach to media initiatives. In this approach, programs take a multi country or regional approach and provide training and support to multiple media outlets and institutions across a region. USAID/West Africa's Peace and Governance program aims to strengthen systems of non-violent conflict management in West Africa at local, national and regional levels by focusing on countering violent extremism and promoting conflict early warning and response systems. The program expects to devote \$40 million to CVE and early warning systems to identify threats. The program has a media component that spans four nations (Burkina Faso, Cameroon, Chad and Niger). The cross-nation media development activities seek to amplify moderate voices and attitudes through radio, social media, civic education and conflict resolution events.

What is the impact of media development assistance? How do we know if media interventions work? How can we improve on the successes and learn from failures? The next section reflects on the author's nearly 20 years of experience with media development projects across Africa, Asia, Europe and Eurasia, and the Middle East.

2 Case studies of media development: Lessons learned in the field

There have been hundreds of media development initiatives. The following five case studies highlight some of the opportunities and challenges in media development.

2.1 Creating public service broadcasters (PSB)

Across the world, developing a public service broadcaster (PSB) is a fundamental nation-building task to ensure that citizens have an independent source of news. Why is a public broadcaster so important to development? Public broadcasters serve as *public interest* broadcasters. Public broadcast organizations like British Broadcast Corporation (BBC) or the Canadian Broadcasting Corporation (CBC) are really public service media that inform and engage citizens. The public broadcasting model seeks to provide accessible content that serves majority and minority groups. Content usually seeks to build national identity and national unity. Funding comes from government and receiver fees.

Early examples of international support for PSBs included “foreign aid and military interventions were used to create what are now arguably two of the most successful examples of PSB in the world – Germany’s ARD and ZDF as well as Japan’s NHK” (Abbott, 2016, p. 9). Nations such as “Bhutan, Ghana, Poland, the Czech Republic, Croatia, Serbia, and South Africa were highlighted by many experts as standout examples of where PSB has been successful since the 1989 post-Cold War period” (Abbott, 2016, p. 15). Public service broadcasters play an important role in nations in transition.

2.2 Liberian community radio grows and fights Ebola

Community radio is often a part of media development initiatives. In the early 1980s, a network of community-based radio stations developed from local grassroots initiatives in rural counties in Liberia. During the Liberian civil war (1989–1997), this network was almost destroyed. When the Liberian civil war ended and Liberia had its first national election in 2004, the international community devoted millions of dollars to reconstruction. There were no information sources in the rural counties and the public service broadcaster could not reach millions of people due to transmission issues. There was a large media component to the donor assistance and community radio became a priority. Community radio was the best means for getting information to the people because of the geographic composition of Liberia, poor roads, and diverse language communities.

Mercy Corp initiated an extensive community radio program in 2004 with funding from USAID to support 20 community radio stations in 13 rural counties. Mercy Corp is not a media development organization. It is a crisis response organization. Mercy Corp was operating in rural counties after the civil war and saw a need for community radio. With USAID funding, it offered self-sustaining solar electrical power, digital equipment, and computers for editing and broadcasting to a network of local community stations. Yet, by 2011, most of the community radio stations were only on the air a few hours a day with many not able to produce any broadcasts. From 2011 to 2014, IREX along with the local Liberian Media Center created a plan to re establish the radio stations, train local journalists, and link the stations in a network to share content.

The network of community radio stations was tested by events that occurred in Guinea in December 2013 when a two-year-old child died from Ebola. Borders in West Africa are porous with people moving easily between countries. By March 2014, Ebola appeared in rural Lofa County, in the northwest corner of Liberia that borders Guinea. By July 2014, the disease had spread through Lofa as the failures in both the health system and the government’s capacity to treat those affected by the virus exacerbated the situation. By August 2014, the first cases appeared in the capital of Monrovia as

people from the rural areas, hoping to escape the disease, actually infected family and friends.

Community radio stations were mobilized to communicate accurate information about the real health risks, government policies regarding Ebola, and rally community action (Taylor & Kent, 2016). The capacity of the community radio stations that had been built (and rebuilt) over 15 years meant that Liberians living in rural counties had the information that they needed to safeguard their families. Donors including UNESCO UNICEF, WHO, and IREX focused on development of health messages and reporting about the disease; dealing with myths and misconceptions; reporting success stories to give hope to the population; and dealing with stigmatization – especially of those who have been successfully treated. Community radio stations developed simple messages in local languages to help their community address the health crisis. The Ebola virus health crisis in Liberia shows that media development projects can have long term value in rural communities. Strong local community radio stations can be mobilized in ways that don't just create local news and information, but they can save lives. The Liberian case shows that continued support is sometimes needed to sustain media development goals. The radio stations set up in 2004 were not functioning in 2011. It took a second media development program to get them running and serving their communities.

2.3 Creating an enabling environment for media and free speech in Iraq

Creating sustainable professional media is only one part of the media development process. Transitional countries face complex problems when it comes to balancing the right to freedom of expression with the calls for regulation. Media projects in Iraq, Somalia, Kosovo, Bosnia and Jordan have worked for revisions to the legal system that enables (or limits) media. Media development projects have supported topics such as legislation for digitalization, convergence, licensing, codes of conduct of journalism, and decriminalizing defamation.

In Iraq, the media sector is polarized with news content often representing political positions. In a post-conflict environment such as Iraq, this polarized content can become inflammatory with the potential for inciting violence. Inflammatory content diminishes the chances for Iraq to move forward in its transition to a peaceful, democratic society. Media development projects sponsored by the United States Institute for Peace (USIP) and the EU worked with local media, civil society organizations, and the government regulator to create a self-regulating system. Over a three year process (2009–2012), the United States Institute of Peace (USIP) and the Annenberg School for Communication at the University of Pennsylvania, engaged three key partners of the media sector (Iraqi civil society media monitors, regulatory bodies and news media)

to jointly discuss and decide how best to minimize inflammatory language (Taylor & Dolan, 2013).

This collaboration resulted in research efforts to identify, define and measure through content analysis the prevalence of inflammatory terms appearing on the newscasts of the top five Iraqi satellite stations prior to national elections in 2010. The research findings of the content analysis of election news were shared with Iraqi media, civil society media monitors and regulatory bodies to assist them in their efforts to prevent inflammatory reporting. Based on a set of guidelines for preventing media incitement to violence developed by USIP with Iraqi media stakeholders, a pilot group of influential news directors, media regulators and civil society media monitors created a Style Guide for Conflict Reporting. The Style Guide provides a reference for media to minimize the use of inflammatory terms and provides a starting place for Iraqis to address both the issues noted in the content analysis findings and to improve media regulation and monitoring. The Iraqi NGOs, media and regulator have continued to meet to discuss self-regulation and the role of the media in Iraq's transition.

2.4 Sometimes media development fails: Cases of media capture

Many media development programs attempt to support sustainable independent media outlets that don't need government support. But, the push toward commercially viable media is not easy. Abbott (2016) noted that moving media organizations from government support to private support often results in "collusion of private owners with semi-democratic regimes. In country after country, private owners of media are working hand in hand with governments to promote a particular power structure and to limit robust debate about matters of public interest (p. 1). Transforming media from government ownership to private ownership does not always achieve the intended goal of media independence.

Media development outcomes are difficult to sustain. Overtime, the advancements made during times of intense economic support for media and professional development begin to wane. When aid programs end, independent media outlets and investigative journalists once supported by donor dollars have to face the economic and political realities (Taylor & Kent, 2000). The commercial media created and sustained through donor support will eventually need advertising support. Financial support may come in the shape of private ownership or government advertising. Private owners may purchase controlling interests in media organizations to help support their political goals. Governments may try to influence news content by buying large amounts of advertising.

There is a term in the media development community, "media capture," that describes what can happen after the donors leave. Media capture occurs when outlets that were once independent decide to sell their media organization to private

companies or individuals. Sometimes, the real owner of the outlet is masked. Hidden media ownership is often a consequence of media privatization and transformation in transitional nations. When ownership of a media company is hidden, no one really knows whose interests are being served.

Bosnia-Herzegovina, Montenegro and Serbia are examples of media capture. Each country received millions of dollars of media development assistance after the break-up of the former Yugoslavia. As donors left in the mid-2000s, each nation's independent media outlets have struggled to remain political independent and financially viable. For example, in the Republika Srpska (RS) in Bosnia-Herzegovina, the newspaper *Nezavisne Novine* had received millions of dollars in US and European support from 1992–1999 because of its critical attitude toward Serbian actions in the war and Serbian nationalism. Its editor/owner, Željko Kopanja, survived an assassination attempt but was permanently paralyzed after a car bomb. In November 2000, Kopanja was awarded the International Press Freedom Award from the Committee to Protect Journalists. Human Rights Watch **awarded him one** of its Hellman/Hammett grants.

In the 10 years after the press awards, *Nezavisne Novine* has now become an overt supporter to the current RS government. This change may be explained by a government fund of \$9 million that was set up to buy advertising and positive news coverage from private media. CIMA reports that “more than half of that went to two newspapers owned by Željko Kopanja” (Mijovic & Šajaks, 2016, p.). Kopanja died in 2016 and the newspapers continue to support the RS government.

In Montenegro, after significant international media development assistance, the public service broadcaster RTCG was on the path to serving as a public service broadcaster. However, the government changed the funding scheme. Citizen subscriptions, once the major source of funding for RTCG, were replaced by direct funding from the government's budget. Additionally, the government changed the policy for the appointment of members of the RTCG board of directors giving political leaders more power over the editorial practices of the broadcaster. Freedom House (2017) noted that “opposition parties and media, and parts of the NGO sector, have long questioned the public broadcaster's impartiality” (p. 7). Cases like RTCG show that media capture is a risk to sustaining an independent media after donors leave.

2.5 Supporting citizen journalists in Syria

While many media development programs operate openly in a country and work publicly on media training and reform, some contexts are too dangerous for international organizations. Some media development projects happen in third party locations. One Syrian media development project, implemented by the Institute for War and

Peace Reporting, supported citizen journalism training (Mohammad & Taylor, 2017) and created an online site to host local stories.

Even before the Arab Spring came to Syria, its citizens suffered from one of the most controlled media systems in the world. According to Freedom House, there was “state control over all print media and forbids reporting on topics that are deemed sensitive by the government, such as issues of national security or national unity; it also forbids the publication of inaccurate information” (<http://www.freedomhouse.org/report/freedom-press/2013/syria#.U112XxZ91UQ>).

By 2017, the Syrian conflict entered its seventh year making it the longest crisis that had started in the 2011 Arab Spring. The humanitarian crisis became even more dangerous when in the latter part of June 2014, the Islamic State of Iraq and the Levant (AKA ISIS) or *ad-Dawlah al-Islāmiyah fi 'l-'Irāq wa-sh-Shām* (AKA Daesh) swept across the Sunni areas of Syria (and Iraq) to establish an Islamic state. People living in areas under the control of the ISIS (Daesh) have few connections to the outside world.

The lack of information about Syria exacerbates the peace process as groups use propaganda to tell their side of the story. To increase the information available to Syrians, IWPR trained citizen journalists in Turkey and free parts of Syria. A key part of the news production process is that citizen journalists received editorial guidance, mentoring and financial support after the training ends. The IWPR team mentors the Syrians by providing feedback and technical guidance until the stories are ready to be published online in Arabic and English on the IWPR Damascus Bureau.

The Damascus Bureau is a forum for independent Syrian citizen journalists to share their stories. The site reports on the “social, political and economic affairs of Syria and the Syrian diaspora in the surrounding countries as part of a continuing training program in journalism skills. Damascus Bureau is a bilingual forum. Most of the articles published on Damascus Bureau’s English homepage are edited translations from the original Arabic version” <https://damascusbureau.org>.

The Damascus Bureau provides a venue for stories about the people most affected by the conflict. It provides a chronicle of the war because it publishes information about the events in regime controlled, opposition controlled, and ISIS/Daesh controlled areas. The Damascus Bureau serves as the nexus of a network of local correspondents that provide first-hand coverage of events from inside Syria

The Damascus Bureau plays a connective role in linking citizen journalists and professional media (Muhammad & Taylor, 2017). As one of the only sources of information about what is actually happening to the people of Syria, many international news organizations regularly visit the site to learn about events and generate story ideas for their media outlets. Some media organizations have hired the IWPR citizen journalists as stringers based on the quality of their previous news stories. In light of the kidnappings and beheadings of international journalists in Syria, citizen journalists are one of the only sources of credible information about events on the ground. The media assistance project’s capacity matters a great deal as the world attempts to make sense of the conflict inside Syria.

3 Conclusions

Well over a billion dollars of media development assistance have been dedicated to post conflict and conflict prone societies. There have been positive outcomes with the emergence of independent media outlets across the world. But traditional news organizations continue to face risks and pressures that diminish their capacity to serve their intended function in a society. The web, mobile devices, and social media are now part of the existing media environment in all of these contexts. Social media may be a tool for facilitating two way information flows between citizens and government. Some have argued that social media and blogs might provide the same type of information that media organizations provide.

Traditional media development assistance programs have recently begun to include social media components. Some civil society support programs are devoting resources to empower citizen journalists, bloggers and regular citizens who are interested in participating in their community's information ecosystem. Media development projects now consider these people as viable nodes in the information system because citizen journalists are less likely to have their coverage of news and events hindered by the structures and relationships of media organizations.

This chapter explored media development activities from both government and external actors. Creating and sustaining media systems in changing societies is necessary because media play such an important role in nation building and political, social and economic development. The form of media development may change as media change but as long as nation states are evolving there will be a need for internal or external media development.

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Amit M. Schejter

25 Media Regulation and Policy

Abstract: This chapter on media regulation and policy describes the study of the ways media institutions and their actions are organized and overseen. Studies of these arrangements span technology, law, and economics, whose intersections form the foundation for regulatory measures. The chapter focuses on the study of media regulation and policy, and on the role that mediated communication research has played in identifying and informing media regulation and policy problems. It starts with a definition of regulation, and the metaphors it invokes; and pays particular attention to media regulations and policy challenges in which mediated communication research has been addressed or employed, even though its impact is not uniform. The chapter discusses the definitions of regulation, the history of media regulation, the regulation of media as a process, different regulatory regimes, a variety of regulatory perspectives, and the relationship between regulatory issues and research on issues such as media effects, the tension between administrative and critical research, and media and markets.

Keywords: regulation, policy, metaphors, processes, regimes, markets, administrative research, critical research.

The study of media regulation and policy is the study of how media institutions and their actions are organized and overseen. As such, studies of these arrangements span technology, law, and economics, whose intersections form the foundation for regulatory measures. This chapter will focus on the study of media regulation and policy, and on the role that mediated communication research has played in identifying and informing media regulation and policy problems. It will pay particular attention to media regulations and policy challenges in which mediated communication research has been addressed or employed, yet its impact is not uniform.

1 Defining regulation

The media of mass communications are social institutions with the technological capacity to disseminate mass-produced messages (Turow 1992). In contemporary society, they have become the chief distributors of symbolic content. Media regulation is the authoritative establishment of the quantity, quality, and type of messages that they can or are required to distribute in a given social order (Schejter & Han 2011). The term “regulation,” therefore, is the metaphor chosen to describe the assumption of authority over the media. Metaphors, images, and similes have a major influence on designing policy in general and information policy in particular, and “regulation” is no exception.

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Referring to “regulation” as a metaphor stems from the fact that, while “regulation” is so commonly used in the context of government action, it also has a distinct meaning in other contexts. The Merriam-Webster dictionary defines the action to “regulate” as “to fix or adjust the time, amount, degree, or rate”; the Oxford dictionary defines it as a verb meaning to “control or maintain the rate or speed of (a machine or process) so that it operates properly.” Regulation of mediated communications, therefore, is not only about asserting government power over an industry, but also about the control over the extent, direction, and volume of the content that is mediated.

Yet the use of metaphors in the history of media regulation does not stop at the definition of the term. Actual regulatory actions are rife with images intended to justify assertion of authority over a human behavior naturally free and unfettered – the act of communicating. In some cases, regulatory actions enhance communications, in others they restrain them. Metaphors include such imageries as “the marketplace of ideas,” “the information superhighway,” “cyberspace,” and the “digital divide.” And while descriptions, comparisons, and representations can serve to simplify an explanation and to illustrate what words sometimes cannot, they can also serve to ideologize an argument, while obscuring its ideological bent. Indeed, metaphors can project hidden messages that can help overcome resistance to an idea which raises unflattering associations or connotations. This is especially sensitive due to the special nature of media regulation. As such, the study of media policy is aimed, among other goals, at uncovering the underlying motivations for the control asserted over speech.

Media governance through policy and regulation is unique among most technological infrastructures that call for public and governmental oversight, because its importance to society lies not only in ensuring continuance of service and competitive markets, but also in the impact it has on both democracy and culture. This is the result of the nature of the regulated matter: words and images. Napoli (1999) identifies three fundamental differences between communications regulation and the regulation of other industries: the unique potential for social and political impact; the ambiguity of classification of decisions along economic or social regulatory lines; and the potential overlap and interaction between economic and social concerns within individual decisions. All three point to the inherent tension between applying regulatory constraints on the media for whatever reason and the consequences of such actions on the social role the media play in society and, as a result, on the health of democracy.

2 Media regulation – a brief history

The regulation of mediated communications is as old as mediated communication itself. Indeed, at least as far as Western culture is concerned, control of mediated

messages can be traced to the earliest legal systems. The Biblical dictate “You shall not make for yourself an idol or a likeness of anything in the heavens above or on the earth below or in the waters beneath the earth” (Exodus 20: 4), is in fact a command aimed at limiting mediated communications (the media being the idol, the message its divine powers). The introduction of mediated communication means such as writing, whether on clay, ceramics, parchment or papyrus, triggered almost immediate “regulative” responses limiting the words those media could carry. The position of “censor” was created in Rome as early as the fifth century B.C.E; the Chinese Emperor Qin ordered books burned as early as 231 B.C.E.; and Chinese censorship laws have existed since the fourth century C.E.

Regulation of written texts became more prevalent with advances in print technology and the concomitant growing control of religion. The church feared religious subversion and practiced censorship by burning and banning written texts that did not adhere to dogma. Its counterpart, the monarchy, which feared uncontrolled communications per se, developed three types of regulatory measures: taxation, licensing, and reprimand. The first and second were aimed at the ownership and use of the mediating technologies. Taxation could be applied to ownership of printing presses, and taxes could be leveled on the purchase of paper or ink. Licensing could apply to the ownership of the mediating devices, such as presses, or to their usage.

Reprimand was different in that it focused not on blocking or limiting the mediation act, but rather on a post-hoc reaction to the content of the communication. Reprimand can also be traced to the dawn of Western history, such as in the case of Korach, who dared question Moses’s leadership and ended up with the earth “swallowing” him (in the words of the Bible). Socrates likewise defied the powers that be and was forced to drink poison. But more modern versions of speech regulation through post-hoc reprimand that have appeared since the invention of print have focused on criminalizing sedition and libel and on economic punishment to freeze speech (Siebert, Peterson & Schramm 1956).

The introduction of electronic communications fostered the creation of new regulatory regimes. The first United Kingdom measure for regulating wireless telegraphy dates to 1904. In the United States it took the Titanic sinking for the Radio Act of 1912 to replace the Wireless Ship Act of 1910, regulating the electromagnetic spectrum in favor of unobstructed communications. The Radio Act of 1927 introduced a criterion for such licensing, the “public interest,” and established a bureaucracy focused on implementing these regulatory powers. By 1934, The newly minted Federal Communications Commission was charged with overseeing the whole telecom industry including means of interpersonal communications such as the telegraph and the telephone. Other countries in the West, mostly in Europe, found broadcasting too important to be left to the market (Levy 1999), and oversaw the broadcasters themselves. Yet another model, characterizing authoritarian regimes, left the actual operation of the media in the hands of government.

3 Regulating the mediated process

An extremely useful theorization of the regulation of mediated communications was created by Longstaff (2002). Her method was based on information theory, the basic descriptive model of the communication process developed by Shannon and Weaver (1949), and sought to identify the regulatory measures by locating them along the components of the process. Shannon and Weaver's (1949) model was comprised of a sender and a receiver, coding and decoding mechanisms, devices and a message. The existence of probable noise compromising the process is also a fundamental element in its structure. The concept of feedback was later added to the original Shannon and Weaver model, as it was considered to be the beginning of a new communication process (Chaturvedi & Chaturvedi 2012). (See Figure 1.)

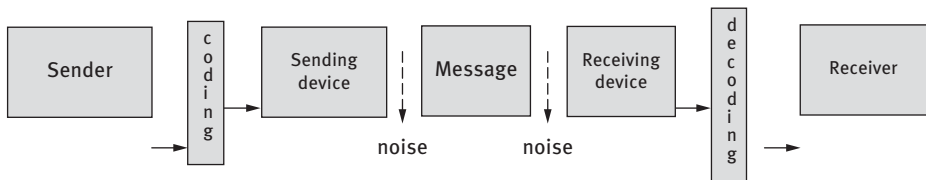


Figure 1: The communication process.

The important contribution of Longstaff's work is that it allows us to differentiate among regulatory measures by pointing out the element in the process they are aimed at. Thus, sender regulation focuses on the initiator of the message: it could be the media themselves, the corporations owning them, or the people working for them. Coding and decoding regulations are those targeting the symbolic language being used, both in the technical and in the cultural sense. Sending and receiving devices are subject to technological oversight ensuring, for instance, the clarity of the signaling and addressing issues of safety. Receiver regulation refers to limitations on audiences. Indeed, the type of regulation, which needs to be initiated as little as possible in societies espousing free speech, is message regulation.

Abstracting regulatory action by identifying the location along the communication process to which external influence is directed allows us to part the metaphors from the actions, and uncover the meaning of the regulatory act as it relates to the process as a whole. This is an important exercise because media regulation has social, political, and economic implications. Identifying the locus of the regulatory edict highlights challenges the rule was created to solve, goals it intends to reach, and dangers it imposes. While setting rules to eradicate "noise" is usually perceived as a positive act, limitations on contents of messages raise red flags (Baldwin, Cave & Lodge 2012).

Regulation, however, is but one choice for a government to implement policy. Lowi (1972) identified four, by now classic, systems of policy: distributive, redistribu-

tive, constituent, and regulatory. Tatalovich and Daynes (1988) identified yet another regulatory policy option, which they coined “social regulatory policy,” defined as the exercise of legal authority to modify or replace community values, moral practices, and norms of interpersonal conduct with new standards of behavior. Using the media to propagate social and cultural understandings is a specific type of social regulatory policy. Baldwin, Cave and Lodge (2012) differentiate between economic regulation measures, which adhere to a market failure rationale, and regulatory policy, which is justified by the need to protect human rights and to further social solidarity. While market-failure motivated regulations may be seen as a secondary choice to the market’s dynamics, employed only when they fail, socially-driven policies are “a first-choice method of organizing social relations” (22).

4 Regulatory regimes

Many media scholars have attempted to typologize regulatory regimes over the years. These typologies, often rooted in technological changes, are influenced by the ideological positions of the researchers, and as such tend to be either dated or partial. The classic typology was offered in the 1950s by pioneering media scholars Fred Siebert, Theodore Peterson, and Wilbur Schramm. In their seminal *Four Theories of the Press* (1956), which was reprinted in more copies and translated into more languages than any other textbook in the field of mass communication research (Nordenstreng 1997), the three sought to explain media regulation by embedding the design of regulation in the ideological field of the society in which it was implemented. The book tried to answer some basic questions, among them “Why does [the press] apparently serve different purposes and appear in widely different forms in different countries? Why, for example is the press of the Soviet Union so different from our own, and the press of Argentina so different from that of Great Britain?” (Siebert, Peterson & Schramm 1956: 1).

The result, however, provided far less than the ambitious intent. *Four Theories* organized types of media policy around what it described as “theories,” defined as “philosophical or political rationales” that underlie existing press systems: Authoritarian, Libertarian, Social Responsibility, and Soviet-Totalitarian (2). Its main finding was that a media system reflects the system of control in a given society. However, the authors’ choice of “models” was more a reflection of their own ideological biases than an attempt at a neutral or objective description of the regulatory system. Hence, the significance of this classic study is not in its ideologically biased classification of regulatory systems, but rather in its insight that theories organizing media systems differ in how they answer questions concerning the underlying belief systems of those cultures.

Over the years, a growing number of scholars recognized the faults within *Four Theories*. Most obvious was the fact that the study downplayed commercialism and

advertising, the underlying beliefs concerning the role of advertising and commercialism in society, and their regulatory effect. This led some commentators to note that in fact it is one theory that *Four Theories* utilized, which bears four examples (Berry 1995). Still, the *Four Theories* legacy, that regulatory systems and their organization can be arranged into descriptive models, served as an inspiration and an ideal-type model for the evolution of the study of comparative media systems, which in turn provided an opportunity to understand media policy and regulation on a global scale. Over the years the original four theories were either supplemented by other theories, owning different systems of control, or by new typologies identifying other general organizing patterns. Thus, Altschull (1984) added “advancing” or “developmental” to the four theories to allow for a generalized description of media systems in the third world. McQuail (2005 [1983]) added to the original model a “democratic participant” theory, which describes a situation where control is ideally distributed equally to all members of society.

The basis for a different set of typologies was an understanding that commercial interests can also be the location of control, and therefore the “regulator.” These typologies included such models as “private ownership,” “public service corporation,” “controlled commercialism,” “partnership in the public interest” (the Swedish model), and “mixed systems” (Head 1985). A more generalized typology identified four theories by focusing on the motivation of the possessor of the control, defining the “authoritarian” as one that is interested only in maintaining its own power and as a result practicing *restrictive* methods to achieve this; the “paternal,” which wishes to “guide and protect” the majority in adapting the ways of the minority by emphasizing what *ought* to be communicated; the “commercial,” which believes in the right of free choice, however limits itself to producing content that will *sell*; and the “democratic,” which maintains open communication channels to alternative viewpoints (Williams 1976).

Nordenstreng (1997) offered five paradigms – liberal individualist, social responsibility, critical, administrative, and cultural negotiation – as an alternative to the “four theories.” He also sought to identify the role the media play in each paradigm: collaborative, surveillance, facilitative, or critical/dialectical. Other broad comparative studies of regulatory systems include Hallin and Mancini’s (2004) classification of three models derived from both geographical and political theory terms: the “Mediterranean” or “Polarized Pluralist”; the “North/Central European” or “Democratic Corporatist”; and the “North Atlantic” or “Liberal” model. One later example of such a study is McKenzie’s (2006) *Comparing Media from Around the World*, in which the conceptual framework of “system analysis” is utilized to describe the media in eight countries.

There is a certain degree of utility in a generalized model, in which the individual national situations are measured against comparable units of analysis, testing a cross-national theory that seeks to “understand the diversity of different national contexts, achieving this by re-presenting the specificity of each country using a common conceptual language” (Livingstone 2003: 485). However, these comparisons

often crowd regulatory systems that are not necessarily similar under the same roof. The result may lead to misconceptions regarding those similarities. The Hallin and Mancini (2004) study is an excellent example of such a dysfunction. By geographically typologizing the regulatory models, they end up joining types that have very little in common, such as the U.S. and U.K. systems, both considered “North Atlantic” or “Liberal.” Indeed, one may argue they are as different from each other as they might resemble each other.

Other studies of regulatory systems focus on one organizing principle, testing it across national contexts. Classic examples of such studies are Humphreys’s (1996) study of media policy in Western Europe, and Barendt’s (1995) study of broadcasting law; both assume law and policy can be understood as variables dependent on national circumstances. Frachon and Vargaftig’s (1995) study and Blumler’s (1992) study demonstrate other comparable variables, such as the way they relate to minorities or more generally to value systems. Perhaps one of the most comprehensive studies is Eli Noam’s (2016) *Who Owns the World’s Media? Media Concentration and Ownership around the World*, which describes thirty countries’ regulatory responses to one issue: media ownership. This volume is also notable for its size: 1440 pages. It is further discussed later in this chapter.

Within this genre of comparative regulatory studies focusing on a single aspect of regulation, it is important also to note the annual surveillance of press freedom, which is usually undertaken by advocacy groups such as *Freedom House* (<https://freedomhouse.org>) and *Reporters Without Borders* (https://rsf.org/en/ranking_table), and by media organizations such as *Deutsche Welle* (<http://akademie.dw.de/navigator>). These types of comparisons, however, tend to appear only online in recent years, and less as academic studies.

More commonly, national comparisons describe policy in general. They include, for example, the series of Euromedia handbooks on the media in Europe. What started in 1986 as a collection of country studies titled *Electronic Media Policy in Western Europe* (Kleinstauber, McQuail & Siune 1986) had in its fourth version become *The Media in Europe* (Kelly, Mazzoleni & McQuail 2004) reflecting the political changes in the region and including reviews of media systems in a wide range of Western, Central, and Eastern European nations. There are similar endeavors focusing on other regions, such as Kamalipour and Mowlana’s (1994) handbook of Middle East media systems or Wasserman’s (2012) review of press freedom in Africa.

5 Regulatory perspectives

One way to view studies of media regulation and policy is through the disciplinary angle they originate in. One such organization is by differentiating between economic, cultural, technological, and democratic regulatory studies (Schejter & Han 2011).

The economics of media are unique, since media products are a public good, whose value does not diminish with use or over time (Owen 2002). However, the economic motivation for their regulation emerged, paradoxically, with their mass dissemination as physical products. The industrialization of the newspaper, with the invention of the “penny press,” led to its transition into a commercial medium that enjoyed extensive freedoms. At the same time the news, an abstract form of information, became a mass commodity (Hamilton 2004). In 1934, the United States Supreme Court agreed to review antitrust complaints against the press and determined that the business of newspapers is not exempt from such scrutiny, even though newspapers themselves were exempt from scrutiny regarding their content. It was an economic rationale, therefore, that opened the door to government oversight of an industry that had been perceived as best left exempt from government regulation (Schejter & Han 2011).

However, it was a technological justification that allowed for the regulation of electronic media – at least at first. The technological perspective was rooted in the unique physical attributes of broadcasting. The governance of radio over the electromagnetic spectrum challenged governing bodies worldwide. Subsequent technologies such as cable, satellite, mobile telephony, and digital distribution over the Internet, each in its time, served as the justification for the creation of new rules. These had an immediate effect on the distribution of information and ideas. The technological control over the airwaves and their physical attributions, which allowed broadcasting only on a local level, led in the United States to economic regulatory considerations, limiting private organizations to no more than one broadcast license per such market. The Federal Communications Commission (FCC) rationalized the rule at first as necessary to protect the public from the dangers emanating from the concentration of economic power. However, the need to determine who, among competing applicants for a license, should be granted one, introduced cultural considerations.

In 1927, the U.S. Congress passed the Radio Act, which was described by its initiator, Secretary of Commerce Herbert Hoover, in technological terms: making it possible to “clear up the chaos of interference” (as cited by McChesney 1993: 18). The Act, however, addressed radio as a medium carrying content that needs to serve the “public interest, convenience and necessity.” This perspective already conglomerated the technological, with the economic and cultural, as the “public interest” was translated to mean “competition, localism and diversity” (Taylor 2016). Similarly, the first British media law was driven by technological considerations. The Cinematograph Act of 1909 was focused on protecting movie theater audiences’ well-being, by addressing safety concerns arising from the flammable nature of early film (Goldberg, Sutton & Walden 2009: 9). By 1912, however, concerns for public morality became the impetus for the establishment of the British Board of Film Classification, whose regulatory powers were content-directed (342).

Using culture as a regulatory perspective has been done in a variety of ways in different countries. Western European regulation was characterized by the notion of

“public service.” The “public service” role may have changed over the years to meet changing social, political, and economic conditions, but by the 1990s it had embodied several accepted principles. These included: public accountability; public finance; regulated content; universal service; regulated entrance (Siune & Hulten 1998); a comprehensive coverage remit; a generalized “broadly worded” mandate; pluralism; a cultural mission; a central place in politics both as highly politicized organizations and as reporters of the political process; and non-commercialism (Blumler 1992). Ang (1991) has argued that broadcasting in Europe was a “servant of culture” (101), and that these high-minded national cultural ideals may have been the destructive force behind its decline.

The colonial heritage of African nations has also led to cultural regulation, with the adoption of the colonialists’ view of the media (Eko 2003). In particular, Eko notes the establishment of broadcasters in the “public service” mode, though he refers to them as “governmental public broadcasters.” In Asia, as well, the distinction between public and government service was blurred at first. Advertising was banned at the outset of radio in Japan to ensure the medium’s reliance on the government, which maintained strict controls on all aspects of broadcasting; this control was justified as a defense of the “Japanese character” (Green 2003). The dominant Confucian cultural values have been reflected in the practice of broadcast regulation in Japan, as well as in Korea and Hong Kong (Kwak 1997).

While economic and technological justifications have traditionally played a role in regulatory design, the regulatory effort usually focused on the control of content as governments assumed the role of determining if and what type of content would be allowed (Schejter & Han 2011). Yet content regulation, which impinges on basic democratic notions, is not limited to government. For example, while the British press purportedly gained its “freedom” from government sometime in the mid-nineteenth century, it transitioned to a market-controlled system, which established limitations of its own on press freedoms that are considered “more effective than anything that had gone before” (Curran & Seaton 2003: 5).

Considerations embedded in the democratic perspective of regulation have influenced the United States’s policies of localism and diversity. The diversity principle in the U.S. is associated with Supreme Court rulings that freedom of the press is based on an assumption that diverse and antagonistic sources of information are essential to the public welfare. The need to regulate the media for the sake of a healthy democracy also motivated internationally divergent policies regarding broadcasting during election campaigns. In most Western democracies, political candidates do not have unfettered access to the media while campaigning (Lange & Ward 2004). Other examples from a democratic perspective are policies focusing on minority voices – diversity policies – which are abundant in most democratic systems. Browne (2005) has edited a comprehensive collection of studies on these policies.

6 Regulatory issues and research

The economic, technological, legal, cultural, and social impact of policy decisions and regulatory actions call for informed decision-making rooted in evidence-based research. It would be naïve to assume that all or even most policy-making has been the result of meticulous investigation and exploration; however, some policy debates have indeed been rooted in or impacted by scholarly research.

6.1 Media effects

Perhaps the most troubling and most investigated aspect of media and its social impact is the study of media effects. Media effect studies originated in the 1940s. They were at first funded by government to serve administrative decision-making. Hence, Carl Hovland's studies of the effectiveness of training films and programs on members of the military were funded by the U.S. Department of War and guided its activities (Hovland, Lumsdaine & Sheffield 1949). Concomitantly, Paul Lazarsfeld and his Princeton Radio Research Project launched their studies, the first research project on media effects of such magnitude. Lazarsfeld's study "virtually created the field of mass communications research" (Sills 1987) and is a milestone in policy research.

These pioneering activities had a double impact: they set the foundation for the development of many more research institutes focused on media education and media effects research, and they established the type of research, which became known as "administrative research" (Rowland 2003). (Administrative research is discussed further on in this chapter.) They also generated interest in media effects among policymakers. Congressional hearings regarding the impact of televised violence have been held in the United States since the 1950s (Bogart 1972). One of the earliest policymaker interventions was the 1972 Surgeon General study of television and social behavior, which summed up more than forty studies on the impact of television violence on the behavior of young people. It found that there is "tentative indication of a causal relation between viewing violence on television and aggressive behavior; an indication that any such causal relation operates only on some children (who are predisposed to be aggressive); and an indication that it operates only in some environmental contexts" (Surgeon General 1972: 11).

This very inconclusive conclusion was a source for much controversy and criticism. However, as Cooper (1996) asserts, the fact that the U.S. congress found itself facing contradictory research funded by regulation proponents and opponents, and that the results were unsatisfying, gave rise to the need for unbiased and unencumbered research. "Consequently," Cooper claims, "communication studies as a valid research field was born" (8).

The study of media effects did not end with the debate surrounding violence on television, nor did its impact on policy. Within ten years of the original Surgeon General report, some 2,500 studies were conducted in the U.S. on the topic, which led to yet another report that not only was inconclusive in its findings, but admitted that “[t]hough the subject is relevant to public policy issues, the present work makes no recommendations and does not issue specific prescriptions” (National Institutes of Mental Health 1982: iv).

Indeed, regulation of content is controversial, and the presumed effect of violent content is not necessarily a phenomenon that should result in limitations on free speech. American courts have differentiated between the regulation of sex, deemed offensive to society (hence requiring no research to back the determination), and the regulation of violence, which emanated from its presumed effect (Packard 2012). After the Supreme Court decided in the late 1970s that regulation of content was allowed, yet only in a limited way, focused on obscenity rather than on violence, a new regulatory model emerged to limit access to violent content: industry self-regulation. First initiated by the movie industry mostly with regards to sex, by voluntarily rating movies and recommending to which age groups they were appropriate, the system was adapted to television with the rise of digital technology, with a focus on violence. In 1996, congress passed legislation obliging television set manufacturers to incorporate into the devices a chip that would allow parents to control the viewing intake of their children, based on a rating of the level and type of violence in the programs. The rating was again done by the industry; the V-chip, as the technology was called, received digital signals from each broadcast program dictating its ratings score.

In 2007, Congress charged the Federal Communications Commission to yet again study the relationship between media violence and aggression in children. The FCC concluded that

although the V-chip and TV ratings system appear useful in the abstract, they are not effective at protecting children from violent content [...]. In particular, we find that the TV ratings system has certain weaknesses that prevent parents from screening out much programming that they find objectionable. (FCC 2007: 3)

As a result, the Commission stated that “a definition based on the scientific literature [...] which recognizes the factors most important to determining the likely impact of violence on the child audience, could be developed” (FCC 2007: 20) The Commission proposed that Congress should “implement a time channeling solution [...], and/or mandate some other form of consumer choice in obtaining video programming” (22).

It is important to mention that the fear of the potentially harmful effects of media content extended beyond regular programming and beyond visual content. As Jordan and Gilmore (2013) note, research regarding the impact of advertising content on children has been used to justify regulation of the advertising industry. Beginning in the 1980s there were calls to regulate music videos, most prominently from Tipper Gore, the spouse of then-Senator and presidential candidate Al Gore. In 2009,

the American Academy of Pediatrics concluded that “research has reported that exposure to violence, sexual messages, sexual stereotypes, and use of substances of abuse in music videos might produce significant changes in behaviors and attitudes of young viewers” (AAOP 2009: 1488). They advised pediatricians and parents to be aware of this information; however, no specific regulatory action was proposed or taken.

Another popular genre of media, videogames, also attracted the attention of lawmakers. In the aftermath of the Sandy Hook Massacre, Senator Jay Rockefeller (D-WV) passed the Violent Content Research Act through the Senate (S. 134, 113th Congress). While it has not become law, it is notable in the context of this chapter because it focused on the need for research, requesting the National Science Foundation to study the effect of video games on violent behavior. Regulation of video games for content in itself has been deemed unconstitutional (Copenhaver 2015).

6.2 Administrative vs. critical research

Being funded by government, corporations, and foundations led Lazarsfeld to question the impact of these funding mechanisms on the role of research in designing policy. His seminal paper, “Remarks on Administrative and Critical Communication Research” (Lazarsfeld 1941), distinguished between these two types of research. According to Lazarsfeld, administrative research, which takes its name from the corporate or government funding that supports it, emanates from the notion that the media are “tools handled by people or agencies for given purposes” (2) and therefore the studies themselves focus on making the “tool[s] better known [...] to facilitate [their] use” (3). Critical research, on the other hand, is guided by the notion that “the general role of our media of communication in the present social order should be studied” (9).

Lazarsfeld saw “administrative” research as being focused on questions such as “Who are the people exposed to different media? What are their specific preferences? What are the effects of different methods of presentation?” “Critical” research asks a different set of questions, such as “How are these media organized and controlled? How, in their institutional set-up is the trend toward centralization, standardization and promotional pressure expressed? In what form, however disguised, are they threatening human values?” (10). Administrative research, explains Lazarsfeld, is criticized for solving only “little problems, generally of a business character, when the same methods could be used to improve the life of the community if only they were applied to forward looking projects related to the pressing economic and social problems of our time” (8). Critical research, however, is opposed by those who believe “that so much of its effort is spent on what might be called ‘showing up’ things, rather than fact-finding or constructive suggestions” (13).

Lazarsfeld described himself as one “whose interests and occupational duties are in the field of administrative research,” yet he called for the development of critical policy research, since he believed it could “contribute much in terms of challenging problems and new concepts” (16). Critical policy research developed as a field of study emerging from a critical approach to the role of media industries in society, and consequently the role of government in either designing them as such, or refraining from intervention. While U.S.-based media industry research has mostly avoided the relationship between large regulatory structures and the cultural output of the industry, focusing more on internal processes within the industry, U.K. and Australian scholars have been active in demonstrating that connection (Havens, Lotz & Tinic 2009).

An essential aspect of the tension between the critical and administrative schools has been the distinction between qualitative and quantitative methodological approaches. Critical researchers have historically been associated with qualitative methods, while administrative researchers were more quantitatively oriented. In the past thirty years, however, critical and administrative communications policy research traditions have become more integrated (Napoli & Friedland 2016). For example, non-quantitative research methods, formerly considered suitable only for a critical approach, are now being integrated into administrative research. A notable attempt at such integration took place in the U.S. in 2010 when the FCC commissioned the Social Science Research Council (SSRC) to qualitatively “analyze the factors shaping low rates of adoption of home broadband services in low-income and other marginalized communities” (Dailey et al. 2010: 3). The study, *Broadband Adoption in Low-Income Communities*, which drew from 171 interviews of non-adopters, community access providers, and other intermediaries, served as a complement to a quantitative study conducted concomitantly, all as part of the development of the National Broadband Plan.

6.3 Market interventions

One of the most contentious issues between policymakers, media industry corporations, and public advocacy groups is the extent of regulatory intervention in the design of the market itself. This tension has been the focus of a dialogue between the research community and regulators. At stake is the delicate balance between the number of corporations that operate in the media sphere, and the availability of diversity and its practice. While media corporations often argue that competition alone would bring about diversity, regulation proponents will point out that without regulatory oversight and encouragement of diversity, media products tend to be uniform. Without direct content regulation, regulators can encourage a more diverse field of opinions, programs, and program genres by ensuring a larger number of players operate in the market.

Media concentration and cross-ownership studies have therefore been a needed tool in determining media policy. In general, levels of concentration have been subject to regulation in markets other than media markets. The most common measure for market concentration is the Herfindahl-Hirschman index. It is based on calculating the market shares of operators. However, like all other indices it has some limitations (Ginevičius & Čirba 2009). These may emanate from its inability to provide an answer to all relevant variables, as it focuses only on market share, or simply from its obsolescence due to new and more accurate computer-enhanced tools. The fact that media markets have social and cultural value beyond the economic has presented policy-makers with a unique challenge.

The early 2000s saw the development of a new index by the FCC. The Commission wanted to deregulate the market and allow for more cross ownership between holders of non-FCC regulated media, such as newspapers, magazines and web sites, and FCC license holders for radio and television broadcasting. Aptly named the “Diversity Index” (DI), the index sought to reconcile the relative “power” of each type of media with their market share, providing a weight to both, and thus taking into account the “effect” of each type of medium beyond its market share, and the cumulative effect of owning more than one type of medium in each market. The Supreme Court struck down the DI, stating it was arbitrary and capricious (Hill 2006). But the novel attempt to understand the diversity of the market gave way to a research agenda focused on finding media-relevant concentration indices.

One such attempt, which was then tried over a substantial sampling of countries, was developed by the economist Eli Noam. It was first used on the United States (Noam 2009), and then on thirty countries (Noam 2016). The “Noam Index,” unlike the DI, looked at each media market separately, and provided small media outlets with additional “powers.” While the DI assigned the same “power” to all media of the same kind and multiplied it by their relative market share based on the number of outlets, Noam theorized that the market share of each individual outlet should be taken into account (Hindman 2009).

The 2003 court decision vacating the cross-ownership policy developed according to the Diversity Index stated that the FCC’s arguments for easing the rules were insufficient. As such, when the FCC launched its next attempt at relaxing ownership limitations in 2006, it commissioned ten studies. Seven of the studies were conducted by outside researchers, three internally, and all ten were subjected to peer review by unaffiliated scholars. A close analysis of the reasoning that led the FCC to eventually repeat its previous decision and propose yet again a lift of the cross-ownership ban “failed to present anything close to a conclusive argument to substantiate the claim that the modification of the newspaper/broadcast cross-ownership rule would be in the public interest” (Obar 2009: 524).

At the same time in Europe, the idea of sector-specific ownership rules was generally rejected in favor of adherence to common competition rules (Just 2009), a move that made efforts to develop alternative measures unnecessary. With concentration

left in the hands of economists and divorced from measures of media diversity, the European Union developed a new strategy to achieve media pluralism by shifting from regulating to monitoring (Valcke 2011). The monitoring activity required extensive research. After surveying the member states' audiovisual and print media markets in 2007, a study defining concrete indicators that can serve as measures for media pluralism was adopted and presented to the public in 2009. In subsequent years the "Media Pluralism Monitor" (<https://ec.europa.eu/digital-single-market/en/media-pluralism-monitor-mpm>) was gradually tested and since 2017 the Centre for Media Pluralism at the European University Institute is implementing it across all member states with the goal of identifying potential risks to media pluralism in each one.

The U.S. National Broadband Plan (NBP), released by the FCC on March 17, 2010, was also accompanied by a massive research effort. The FCC Omnibus Broadband Initiative Working Reports Series and Technical Paper Series presented analysis and research by FCC staff members conducted during the year leading to the publication of the NBP. This initiative was short-lived, however, and definitely not as expansive as the FCC's Office of Plans and Policy Working Paper Series of the mid-1990s, in which more than thirty such papers were presented online for public consumption. In addition to the internal effort surrounding the NBP, the Commission outsourced several studies. One, mentioned above, was "Broadband Adoption in Low-Income Communities." Another, which was the subject of public controversy, was *Next generation connectivity: A review of broadband Internet transitions and policy from around the world*, conducted for the FCC by the Berkman Center for Internet and Society at Harvard University (Benkler 2009). It did not receive funding from the FCC, but sought and received funding from the Ford Foundation and the John D. and Catherine T. MacArthur Foundation. The study stressed

the great extent to which open access policies played a role in establishing competitive broadband markets during the first-generation broadband transition in Europe and Japan, and the large degree to which contemporary transpositions of that experience were being integrated into current plans to preserve and assure competitive markets during the next generation transition. (8)

The conclusion met much opposition from industry players. In the NBP itself the report was cited once, as was only one other independent academic study.

One final instance of policy development relying on research in the U.S. was the failed attempt to design policy under the theme of "critical information needs of communities." This effort was introduced by the FCC on the heels of another foundation-supported initiative, the Knight Foundation-funded "Knight Commission on the Information Needs of Communities in a Democracy." The FCC sought to examine the performance of local media in this context. It commissioned a group of scholars under the auspices of the University of Southern California Annenberg School of Communication and Journalism to produce a literature review on the subject (Friedland et al. 2012). Following the review, the FCC developed a study design, but

it was never implemented as it raised fierce opposition from Republican members of the Commission, who claimed that conducting the study was in itself an intrusion on First Amendment freedoms (Napoli & Freidland 2016). Napoli and Friedland conclude that this incident is an example of how the “First Amendment effectively impedes both the conducting of communications policy research and the use of such research in policymaking,” (60) an observation attributed to Entman (1993).

7 Concluding words

In this chapter I described the development of media policy and regulation, and the role of research in both understanding policy and regulation and in designing them. While starting with a definition of regulation, and the metaphors it invokes, I continued with a brief history of media regulation and how it has developed in different phases over human history, since the very beginnings of its documentation. I continued by describing different regulatory regimes and what, according to different studies, influenced them. In the next phase, I described how research about media policy and regulation has changed over time, and ended with its incorporation, more or less successfully, in practice. Hopefully, this informed review of both literature and perspectives will help scholars to further contribute to the regulatory discussion – a discussion that fundamentally influences contemporary societies.

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26 Mobile Communication

Abstract: This chapter takes a long and wide view of mobile media, situating recent technologies in historical perspective and looking ahead to emerging technologies that challenge research to consider, once again, what's mobile in mobile communication. The first section revisits the tradition of medium theory, which offers a robust framework for examining the various technological, institutional, and discursive characteristics of "new" media as they are embedded in different social and cultural contexts. The chapter relies on a model of prototypical forms of communication – one-to-one, one-to-many, and many-to-many – to identify the distinctive features of mobile media in the contemporary digital media environment. The second section provides an overview of previous research, prioritizing the mainstream that has focused on cell phones and the mobile internet, but devoting substantial attention to a longer and broader stream addressing the relationship between communication and social structuration across space and time. The third section takes up methodological challenges for future mobile communication studies, including the many-to-one communication that users feed into information systems. The fourth and final section addresses the further implications of increasingly ubiquitous communication by embodied and technologically networked individuals in localized settings.

Keywords: medium theory, printing press, telegraph, television, metamedia, mobile media, ubiquitous communication, many-to-one communication

1 What's mobile in mobile communication?

Within two decades the mobile phone, aka the cell phone and the smartphone, has become a global symbol of communication across space and time, so much so that communication researchers may tend to forget that media have been mobile for millennia:

[...] perambulating humans were the first media of communication, later holding manuscripts and other writing surfaces disseminating fact as well as fiction. For centuries, print media have disseminated information and entertainment within and between countries and across continents, first to relatively small and elite groups, later to mass audiences. And, for decades, visual and auditory representations have been distributed, either synchronously or asynchronously, through sound recordings, cinema, and broadcasting. What's new about so-called mobile media is the scale and scope of their integration of communication into everyday practices in increasingly synchronous, localized, and individualized formats. What's mobile about mobile communication is not so much the particular device, the individual user, or the general technology, but the social contexts in which these components come together in communication. Communication transports contexts of meaningful social interaction across physical space. In mobile communication, entire configurations of social relations move about at an accelerated pace. (Jensen 2013: 27)

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This chapter takes a wide view of mobile communication, situating recent technologies in historical perspective and looking ahead to emerging technologies that challenge researchers, once again, to consider what's mobile in different media and communicative practices.

The first section revisits the tradition of medium theory (Meyrowitz 1994), which offers a robust framework for considering the various technological, institutional, and discursive characteristics of each “new” medium as it is embedded in different social and cultural contexts. We rely on a model of prototypical forms of communication to identify the distinctive features of so-called mobile media as part of the contemporary digital media environment. The second section provides an overview of previous research, prioritizing the mainstream that has focused on cell phones and the mobile internet, but devoting substantial attention to a longer and broader stream addressing the relationship between communication and social structuration across space and time. In the third section, we take up a special challenge for future studies: What should be the objects of analysis in mobile communication research – beyond senders and receivers, messages and channels? The fourth and final section considers the implications of increasingly ubiquitous communication by embodied and technologically networked individuals in localized settings. Also in the case of mediated communication, we ask: What's mediated in mediated communication?

2 Biased media

Joshua Meyrowitz (1994: 50) posed the central question of medium theory: “What are the relatively fixed features of each means of communicating and how do these features make the medium physically, psychologically, and socially different from other media and from face-to-face interaction?” While sometimes misconstrued as a technologically determinist position, medium theory rather represents a recognition that the affordances (Gibson 1979) of any particular technology make certain communicative practices possible, others impossible, leaving open the question of which communicative practices will prevail and predominate, with what social and psychological consequences. With the digital computer came a new range of programmable affordances (Helles 2013), which entailed greater complexity both of computer-mediated practices of communication and of their social uses and implications. In this regard at least, Marshall McLuhan's (1964: 23) familiar dictum, that the medium is the message, no longer obtains. The computer is no unified medium with one message, but a meta-medium (Kay & Goldberg 1999 [1977]) hosting many “old” media. Being a digital medium, the mobile phone holds multiple messages, some of which are still being received and understood.

Compared to McLuhan, his main source of inspiration, Harold A. Innis pursued a more traditional scholarly line of inquiry, examining how information monopolies

feed into the exercise of power in society as they shape who knows what, about what, and about whom. An important aspect of such power is the control of space and time; before the coming of modern media, manuscripts supported the administration of vast empires, as acknowledged in Innis's (1972 [1950]) book title, *Empire and Communications*. One of his lasting contributions was the idea of biases of space and time. His argument was that the dominant media of historical empires, cultures, and societies have promoted either stability over time or extended territories. Stone tablets are durable, but do not travel well; papyrus and paper can reach distant provinces, but deteriorate and may more easily be re-appropriated locally to inform resistance and revolution. Though digital media are unusually complex and flexible, their actualizations in particular historical and cultural contexts still represent particular affordances with various biases. Mobile media could be said to recombine biases of space and time in ways that will unfold gradually, and which research is only beginning to grasp.

We depart from communicative practices, rather than media devices, to highlight the ways in which, and the extent to which, certain prototypical forms of communication recur across different media, depending on the available technologies and the embedding social institutions. Figure 1 lays out six communicative prototypes in two dimensions, including examples of the media technologies that currently carry each type (Jensen & Helles 2011: 519). Along one dimension, the figure distinguishes between synchronous and asynchronous communication. One illustration from interpersonal communication is a voice call compared to a message left; in the case of mass communication, the experience of a live sportscast, equally, differs in important respects from that of a recording. Along the other dimension, the reference is to “the number of participants in a given communication and the nature of their interaction: ‘who gets to say something to how many?’ (520). Traditionally, the field has been divided into two “subdisciplines” (Rogers 1999) focusing on one-to-one and one-to-many communication. Not surprisingly, computer-mediated communication in general and social media in particular have refocused attention on many-to-many communications, both as communicative practices in their own right and as elements of the wider digital media environment. With the arrival of social media, communication flows not just in two steps (Katz & Lazarsfeld 1955), but in three or more steps

	Asynchronous	Synchronous
One-to-one	E-mail, text message	Voice, instant messenger
One-to-many	Book, newspaper, audio and video recording, Web 1.0 / webpage, download	Broadcast radio and television
Many-to-many	Web 2.0 / wiki, blog, social network site	Online chatroom

Figure 1: Six communicative practices

(Jensen 2009), from legacy media to social media platforms, and vice versa, with additional input from interpersonal exchanges.

Smartphones afford all of these communicative prototypes. The following review addresses a representative selection of previous studies, including perspectives on mobile media as mass media and mobile communication as one-to-many. While providing innovative insights into an important technological and social development, so far self-described mobile communication studies might be considered biased by a historical context in which diverse technologies and services have been summed up under one heading – mobile communication.

3 Mobilities – past, present, and future

3.1 Presses, telegraphs, and televisions

James W. Carey is the unsung hero of mobile communication research *avant la lettre*, in two respects. First, as a theorist of communication, Carey (1989a [1975]) contributed the summary distinction between communication as transmission and ritual. While sometimes received as a dichotomy, pitting social scientists and cultural studies scholars against each other as camps, the distinction helped to differentiate two complementary metaphors for and models of communication. Few communication researchers would deny that information is, in some sense, transmitted, or that communication contributes to different kinds of community through the performance of ordinary as well as extraordinary rituals. Elaborating insights from medium theory, Carey (1989b [1981]) helped to specify how the communication of information serves to configure space (and time) as contexts of social interaction, initially one-to-one and, with time, one-to-many.

Second, as a historian of communication, Carey recognized that while “new” media are introduced at regular intervals, communication as such is constitutive of the human condition and part of the long-term transformation of the natural environment by the species. As suggested by one of his sources of inspiration, philosophical pragmatism, communication is a form of action, performed on things as well as on and with other people. Deploring “the neglect of the telegraph” (201) as a topic of research in the field, Carey (1989c [1983]) noted that this technology “marked the decisive separation of ‘transportation’ and ‘communication’” (213). Not only could messages now move without the simultaneous transportation of humans and written or printed materials as vehicles; the telegraph “also allowed communication to control physical processes actively” (203) and at a distance, with railroad signals as an early example. Enabling one-to-one or point-to-point communication, the telegraph had practical implications for masses of trains and even more passengers across great expanses.

Before the telegraph, the printing press made information mobile on an unprecedented scale and in two-step flows of reading and speaking, stimulating

individual reflection and collective deliberation. In the domains of science and religion, the printed book was a vehicle of the transformations summarized by the terms Renaissance and Reformation (Eisenstein 1979); in politics and economy, printed newspapers, journals, and magazines became resources of both enlightenment and enterprise, supporting what Benedict Anderson (1991) termed “imagined communities,” in which most members would never have face-to-face contact. For more than three centuries, newspapers have transmitted recent events and current advertising one-to-many, to widely distributed readers, fostering new forms of community at a distance. Over the last century, broadcasting has compressed space and time in the genres of live mass communication (Scannell 2013), in ways that may have left viewers and listeners with an altered sense of self and others and, perhaps, no sense of place (Meyrowitz 1985). With global news and entertainments in plain view, audiences were being suspended between an embodied here and an embedded there. Like the imagined communities of national presses, broadcasting facilitated the experience of being in (at least) two places at once.

Long before the internet and “cyberspace” communities (Smith & Kollock 1999), then, communication has served to spatially configure a wide variety of offline social formations. In terms of Ferdinand Tönnies’s (1974 [1887]) classic distinction, *Gemeinschaft* and *Gesellschaft* were supported by different technologies and institutions of communication. The Chicago School of sociology was among the first theorists of communication to examine societies as systems of communication (e.g., Park 1940). Despite the relative inattention of social-science disciplines to the media as central institutions of modernity (see the overview in Thompson 1995), Urry (2000), for one, explored the diverse ways in which social resources have become mobile, and are transmitted across national and cultural boundaries in the twenty-first century. Media studies, in their turn, have tended to remain media-centric, but have learned, in part from the social sciences, to approach communication as a multi-step process in society, enabled by historically shifting technologies. Carey (1989a [1975]), again, offered a durable definition of communication as “a symbolic process whereby reality is produced, maintained, repaired, and transformed” (23). So-called mobile media have provided communication research with an opportunity to reconsider established conceptions of the various steps of technologically mediated communication and their interrelations with mobility and spatiality. The most recent challenge is how to conceptualize and study the sprawling networks linking human and non-human nodes as media of communication in a new kind of social infrastructure.

3.2 Cell towers and social interactions

Research into the social and cultural consequences of mobile communication began with the advent of the cell or mobile phone in the early 1990s. The GSM (Global

System for Mobile communications) technology was being implemented in most Western countries, following a competition among different systems such as CDMA (Code Division Multiple Access) in the US and analog NMT (Nordic Mobile Telephone) in Scandinavia (Agar 2013; Ling 2004), and mobile phones soon became a personal item for most people in the West. The first decade of mobile communication research addressed the twin media of texting (SMS) and mobile telephony, which coexisted on early mobile devices, and enabled one-to-one communication. Later dubbed feature phones, these devices lacked two central affordances of later smartphones: internet connectivity and the possibility of installing applications (apps) for one-to-many and many-to-many communication. While the spread of mobile communication thus paralleled the diffusion of the internet, the overlap between these technologies was minimal until the arrival of the smartphone. Early mobile communication amounted to texting and talking through devices built to do just that.

Mobile communication quickly became part of daily life, sparking research on both the specific uses of these new devices and the social consequences of the communications they enabled. A common denominator across much early research was the pervasiveness of mobile phones. Mobile communication went from being nowhere to being seemingly everywhere in a matter of years. The devices spread to the business sector first, but were soon adopted by private individuals, a trajectory that was repeated by smartphones and the internet. Mobile phones follow their owners throughout the day, and allow them to fit communication into what Fortunati (2002: 518) has called the “folds” of daily life.

The constant presence of new possibilities for communication was translated by users into new repertoires of both relational and instrumental communication. The relational aspect of communication, in particular, attracted the attention of researchers, informed not least by the central role given to communication rituals (Rothenbuhler 1998) within the paradigm of social-psychological communication research (Craig & Muller 2007). In symbolic interactionism, interaction rituals are seen as vital to the maintenance of social cohesion. Goffman’s (1959) close observations of interpersonal interaction in face-to-face settings had revealed everyday communication as dense with rituals, such as greetings and gestures. He showed that the maintenance and reproduction of social order is as much a matter of micro-rituals, performed throughout daily life, as of the more formal rituals of, for example, religious ceremonies (Durkheim 2001 [1912]). Rituals, large and small, are core elements in the reproduction of social relationships, and depend on the demonstrative and mutual performance of specific types of interaction. One manifest change following from the introduction of mobile phones affected so-called micro-coordination (Ling & Lai 2016; Ling & Yttri 2002): The mobile phone made everyday coordination much more flexible, for example, by facilitating on-the-fly updating of shopping lists, and by challenging established norms of agreeing ahead of time to meet at a particular place at a specific time. At the intersection of instrumental and ritual communication, this re-wiring of the culture of appointments challenged the authority of some people

(notably parents) who preferred fixed arrangements, over other people (kids) who preferred greater degrees of freedom.

As soon as mobile media emerged as integral to interactions among friends and family members, concerns arose regarding their implications for social cohesion. Mobile communication (and, indeed, all technologically mediated communication) enables communication across contexts, which allows users to bypass established settings of communication and, perhaps, to neglect the all-important micro-rituals of daily interaction. As Collins (2004: 63) wrote, “[T]he tendency to drop ceremonious forms in email – greetings, addressing the target by name, departing salutation – implies a lowering of solidarity. Email settles into bare utilitarian communication, degrading relations, precisely because it drops the ritual aspects.” Such concerns about the separation of interpersonal communication from face-to-face settings prompted a range of studies into possible adverse effects of mobile communication on social life. For example, mobile communication, along with internet-based forms of interpersonal communication developing around the same time, might be thought to lead to increased social isolation (McPherson, Smith-Lovin & Brashears 2006; Short, Christie & Williams 1976).

Subsequent empirical research, however, overwhelmingly concluded that while the advent of mobile phones has entailed changes in how we access and interact with other people, these changes are not linked to a decline in social cohesion, nor to an increase in social isolation or a lack of social support (Hampton et al. 2011). Theoretical arguments about ritual communication on mobile devices (Ling 2008), further, have noted that such interactions are not necessarily limited to the single communication exchange, but may extend and relate the situation at hand to other contexts (Ito & Okabe 2005), thus enriching face-to-face interaction rather than depleting it. Concerns regarding the social consequences of mobile communication, in part, reflected a healthy skepticism towards a new technology with a massive uptake. But the worries also reiterated a familiar, nearly automatic response to “new” media technologies as disruptive or dangerous (Marvin 1988; Peters 1999).

3.3 Teen texters and other demographics

Early research on mobile phones and mediated interpersonal communication often centered on the adverse, macroscopic changes that might follow from microscopic changes in the conduct of interpersonal communication. An overlapping concern helps to explain an abiding focus of mobile communication research, namely, young people. Teenagers turned out to be among the most enthusiastic users of mobile phones, once prices dropped to a level that put the devices within their reach (Haddon 2013; Lim 2013; Ling 2005). Texting, in particular, proved a favorite medium for interaction among teenagers (Ling 2010), and teen use of text messages (SMS)

quickly reached astronomical volumes. Though this followed, in part, from sending the same message to many recipients at once, the exchange of messages back and forth also produced high-frequency interaction among small groups of friends (Ling, Bertel & Sundsoy 2012).

Texting soon grew to encompass a wide range of communicative practices. Group texting became common in classrooms, where texting between co-present teens added an extra layer to their interaction. As important, teenage life often involves complex negotiations with parents over autonomy and power, and texting offered a medium for overcoming, in particular, space constraints. Even when a teenager is required to be inside the home at certain times, whether late night or early morning, texting offers a degree of communicative autonomy, a line to absent friends and a world outside the home. As such, teen texting went far beyond utilitarian communication, and had evident ritual and phatic dimensions given the centrality of peers in teenage life (Kasesniemi 2003). The timing and wording of texts made up complex templates for interaction rituals that, over time, would maintain as well as develop social ties. The physical proximity of the mobile phone to the user at all times (Katz & Aakhus 2002) both symbolized and helped to manifest feelings of closeness and connection to distant others by making them communicatively present (Chayko 2007).

Mobile phones have also been used for anti-social communication, such as bullying, which helps to explain this special focus of mobile communication research. While hardly new to young people's repertoires of communication, bullying could take advantage of a convenient new platform, in addition to richer means of verbal and visual expression. This has presented specific challenges for the management of intimate communication. What was meant as an intimate text message for the eyes of a boyfriend or girlfriend only (or an intimate picture, once the exchange of pictures gained ground), can be a powerful means of social exclusion, ridicule, or worse, when it is passed on in multi-step and many-to-many communication (Campbell 2012; Livingstone & Smith 2014).

Teen texting has also witnessed the evolution of innovative forms of expression. In the early days of mobile phones, texts (SMS) were restricted to 160 characters; later, the interface of handsets was redeveloped to allow for the composition of longer messages (sent as separate messages, but presented as one message on the recipient's device). The character limit, combined with cumbersome input options (using the phone's numerical keys to string together letters, assisted by a built-in dictionary), proved a fertile ground for linguistic creativity. This extended to the syntactical rules of language and abbreviations, but also to the inclusion of pictograms (emoticons) that were composed of letters, such as the smiley (Segerstad 2005). And the linguistic norms born of mobile communication could also be traced to wider domains of everyday language use, including both written and oral communication norms (Baron 2008; Hutchby 2000). Again, such changing linguistic conventions gave rise to social concern. Especially in the case of youth, some commentators have considered mobile communication a destructive force, supposedly degrading the linguistic

competence of entire generations. It is clear that some linguistic norms have spread from the medium of texting, but research has not documented any damaging effect on (in particular) written language (Crystal 2008; Plester, Wood & Bell 2008). Instead, the debate in the area can be understood as an exemplar of so-called moral panics, which have often accompanied the introduction of new media as embraced by young people (Thurlow 2006).

For teens, but also for their parents, mobile phones have served, more generally, as tokens of social status. Early on, simply owning a mobile phone (and being able to pay the hefty bill of using it then) set people apart as first movers. Some users would engage in conspicuous consumption or “stage” phoning, flaunting their phone in public settings to make an impression on others (Plant 2000; Srivastava 2005). Norms for displaying the device itself were supplemented by altered norms of interpersonal interaction. Since mobile phone calls can take place anywhere, they break with the traditional physical unity of interpersonal communication and, at the same time, challenge the norms associated with being present, with and to others, in a particular context. Communication with absent others in a social setting disrupts familiar routines. Answering a call while engaged in interaction with a friend changes the status of that friend from an interlocutor to a (more or less) unwilling audience, who must find something else to do. In the days before the smartphone (which now offers quick relief for the many who are left “stranded” by present, but absent-minded companions), such interactions resulted in elaborate displays of disinterestedness to save face (Humphreys 2005).

The wide diffusion of the mobile phone in societies around the world has transformed both public and private spaces of communication, but its uptake has been socially differentiated, as might be expected from research on earlier media forms. Age has been a remarkably discriminating factor, but even in younger demographic segments, where mobile media are adopted first, people use them in markedly different ways. The early notion of “digital natives” (Prensky 2001), which conflated specific use patterns for mobile and other digital media with age cohorts to suggest a transition on a generational and epochal scale, has been thoroughly refuted by empirical studies. Research is currently seeking to keep up with proliferating patterns of use, some of which converge on mobile devices, some of which diverge across additional, if interconnected platforms. In the case of smartphones, the merging of all things internet has enhanced the scope for users to select and combine, at all times, all the forms of communication laid out in Figure 1, sometimes based on highly individual preferences and contextual purposes.

To account for users’ combinations of one-to-one, one-to-many, and many-to-many communications, research has introduced the concept of media repertoires (Hasebrink & Popp 2006; Helles et al. 2015). Studies of media repertoires have shown that different socio-demographic groups vary greatly, both in terms of their time use on various media and in fashioning distinctive repertoires to accommodate the practicalities of *their* daily lives. It is a general rule for the social uptake of new media that

the process is conditioned and oriented, in part, by pre-existing norms and expectations – which are then doctored and developed by users to take advantage of the new opportunities of, in this case, mobile media. It is also a distinctive feature of mobile phones, however, that they are at once highly public and deeply personal media. As public media, they are subject to intersubjective norms and social regulation, for example, regarding the appropriateness of speaking on one’s mobile phone in public, perhaps about private matters. As personal media, however, they are always with us, enabling others to contact us, in principle, anywhere and anytime (Wajcman 2015). Consequently, users not only can, but must work out their individual media repertoires, specifically to regulate their own availability for (mobile) communication and other social interaction (Helles 2012; Helles 2016).

3.4 Bit streams and everywhere

The launch of the Apple iPhone in 2007 and the introduction of third generation (3G) data networking, together, marked a decisive turn in the history of mobile media. Within a relatively few years, the smartphone replaced the “old” feature phone that people had come to carry with them at all times, for talking and texting, during the first decade and a half of mobile communication, as currently understood. While the arrival of the smartphone signaled the beginning of several developments, the common background was internet connectivity through mobile media. The flexible architecture of the smartphone enabled users both to access websites through a browser and to install services developed by third parties (apps). At the same time, the smartphone still hosted talking and texting, and with growing bandwidth came the possibility of also accessing sound and moving images, news as well as fiction, games, and entertainment, delivered by what used to be referred to as “the mass media.” In sum, the smartphone had become an interface to all of the prototypes of communication laid out in Figure 1 and a central point of access to the entire ecology of the digital media environment – the internet in my pocket (Lomborg 2015), for work and leisure, and for the many grey areas between these two domains.

In the West, mobile media represented one more step in the diffusion of the internet. Other parts of the world, most notably East Asia, largely skipped the step of the desktop computer, and first encountered the internet via mobile technologies. This was the case especially in Japan where early applications of mobile communication facilitated many-to-many communication; the cameraphone was also pioneered in Japan (Lim & Goggin 2014). Smartphones reaffirmed this trend so that, today, mobile platforms can be considered the main point of access to internet-based forms of communication globally. In addition, smartphone cameras have supported new genres of distributed interaction across space as well as time, with the *selfie* emerging

as a ubiquitous means of staging oneself along with others, often in famous locations (Senft & Baym 2015).

One key development was social media. In fact, the arrival of the smartphone roughly coincided with the launch of Facebook, which became available beyond the educational sector in the U.S. in late 2006. Even before the Facebook app became a fixture on most smartphones, a proliferation of technologies, sometimes short-lived and replaced by the next new thing, had begun to capitalize on the possibilities of integrating space and communication. The Dodgeball service was a forerunner for a more successful service, Foursquare, which let people share their location with other users of the service (and, importantly, other members of their social networks) via a check-in function, based on location names. The functionality made it possible to identify others who had been present in the same location, and it embedded a gaming element: The user with the most check-ins was appointed “mayor” of the location in question. The Foursquare app, further, included a list of friends that one could either build within the application or import from other social media such as Facebook, and users could both leave comments at different locations for everyone to see and follow the check-in activity of their friends.

Foursquare represented a reorientation of communication in and across space, in several respects. Location-based communication studies have pointed to two functionalities that have since been consolidated as part of other services: annotating features of one’s immediate surroundings and tracking the activities of others through space (Tuters & Varnelis 2006). Place-specific annotations serve as a reminder that many of the contexts and parameters of social practices remain relatively fixed, such as one’s own favorite bar or restaurant and general information about its attractions and services, which might be relevant to future visitors. More generally, sharing information about one’s whereabouts, whether selectively with friends or indiscriminately with anyone, fosters a new layer of awareness based in constant access to ubiquitous information. Whereas mobile telephony and texting had increased our access to other people when we were not with them, location-based services enabled passive monitoring of others. Beyond the surveillance of users by commercial and government interests, users also perform coveillance of each other, and they may engage in sousveillance of the powers that be (Rainie & Wellman 2012), in part to coordinate social protest, online and offline (Howard 2010).

As the functionalities of initiatives such as Foursquare have become integrated into major social network services such as Facebook and Instagram (Goggin 2014; Miller 2013), the annotation of space and the sharing of location information has become a staple of social media use. Location information, which may be sensitive and bears on personal security, tends to be shared cautiously by users (Humphreys & Evans 2017). However, the data that users intentionally leave behind for others to find only tell half the story. The bit trails that transactions on mobile media generate on servers and in other digital systems form the backbone of a growing and already hugely profitable business of big data (Mayer-Schönberger & Cukier 2013). Google’s

mobile operating system, Android, for one, has been designed to elicit and accumulate detailed information about user activities, facilitating predictive analysis with a view to social profiling and personalized advertising. With the ascendance of (what is currently known as) the Internet of Things, new kinds of “everyware” (Greenfield 2006) are being implemented that will track a greater variety of what people say and do in and through digital media, from the smartphone to the power grid to implanted cardiac devices.

4 Mobile data sources

Self-described mobile communication studies already face the difficult question of which data are *not* relevant for examining the relationship between communication and mobility. The difficulty follows from the simple fact that smartphones help users accomplish so many ordinary and extraordinary ends in their lives, at various levels of the social structure, in public as well as private domains of everyday life, in formal and informal genres of fact and fiction, and around the clock. The mobile research specialization, further, invites the wider field to revisit a foundational issue similar in scope to the transmission-ritual distinction, namely, the difference between communication as a representation *of* reality and as a resource for acting *in* and *on* reality. As heirs to the insight of speech-act theory (Austin 1962) – that saying something always means doing something – mobile communication researchers must ask both who *says* what to whom, and who *does* what *to* and *with* whom. Like communication generally, mobile communications have ends – though not necessarily the same ends for all the participants in a given communicative practice.

Lasswell’s (1948) paradigm remains a tested and trusted source of research questions, also applicable for mobile communication. It is essential to know *who* are (more or less) frequent participants in different forms of mobile communication in socio-demographic terms; *what* they access and exchange, whether the news of the day, private concerns, or economic transactions; *to whom* the interactions or transactions are addressed, individuals as well as collectives; in which *channel(s)* they communicate, whether dedicated apps, browsers, or other interfaces, perhaps as multitasking; and what types of *effects* may follow from news updates, social bonding, consumer purchases, or investments – through multi-step interactions one-to-one, one-to-many, and many-to-many across time. An updated version of the classic paradigm must ask: who does what, with which information, with whom, where, when, for how long, in what sequences, and within which networks?

Lasswell epitomized a social-scientific perspective. Humanistic researchers will want to know, in addition, what the texts are in and through which communication becomes possible and meaningful; how meanings emerge from a complex of intertextual relations; and what is the nature of the contexts that communication maintains

and transforms (Jensen 2008). Contexts are concrete settings in geographical space as well as meaningful sites of human interaction.

Mobile communication takes place across physical or material contexts; it serves to constitute virtual contexts through verbal and audiovisual texts, here and now, with absent interlocutors. Data about the contexts of communication – material and virtual, visited or constituted – have special relevance for mobile communication research. Innis's stone tablets and papyrus scrolls delineated contexts for religious and secular rituals; smartphones administer flexible contexts around contemporary routines of work and leisure; and infrastructural data enable both technical maintenance and policy development in areas such as energy supply and road safety. In each case, data from and about the contexts in question help to interpret and explain who said what to whom, for what ends, and with what consequences, as part of the ongoing flow of social structuration (Giddens 1984).

Space and place offer complementary perspectives on the contexts of communication. As an aspect of nature, space is a void that humans occupy and, to a degree, take control of in order to communicate, with, for example, cell towers and handheld terminals. Places within culture and society are already full of meaning – from individuals' birthplaces and national memorials to homes and workplaces. A smartphone conversation between two colleagues, one speaking at their shared place of work, the other from home, likely frames their interaction differently in terms of the urgency of the matter or the seniority of one interlocutor than would a corresponding transmission between two office buildings or from the workplace to a meeting in progress at a collaborating firm. Places carry meaning, as do the connections between places. Such interrelations have been addressed under headings of communities of place and interest. While some communities, historically of Tönnies's (1974 [1887]) *Gemeinschaft* type, are localized, technologically mediated communication has facilitated communities of interest (Licklider & Taylor 1999 [1968]) – from the fans of early cinema to the more literally participatory communities of computer-mediated fandom (Jenkins 2006).

Studies of globalization contribute additional perspectives on mobility and spatiality as they relate to communication. Whereas economic globalization has been ongoing for centuries (Wallerstein 1974), and while political globalization remains limited despite the United Nations, international treaty systems, and regional entities such as the European Union, cultural globalization has been intensifying in recent decades with the diffusion and consolidation of interlinked communication infrastructures (Robertson 1992; Tomlinson 1999). Media enable engagement with the world in two interrelated respects (Tomlinson 1999: 11). On the one hand, the world amounts to a context of actions, including business investments, tourism, and cultural exchange. The internet has opened up the world to new forms of collaboration, for example, for civil society (Edwards 2014), even as the internet replicates familiar structures of power (Castells 2009). On the other hand, for most people most of the time, the world represents a frame of reference for local events. What I know about,

and do with, others elsewhere, affects both what I can do locally, and how I think of myself in a global perspective.

Such theoretical distinctions hold methodological lessons for studies of mobile communication and its social contexts, to be examined through the full range of quantitative and qualitative methodologies. Mobile communication research, however, is heir to one more, recent legacy deriving from the nature of communication in digital systems. Smartphone users speak into their device, but they also speak into a system (Jensen & Helles 2017), leaving behind bit trails for others to communicate about and act upon. Like Google, Amazon, and Netflix, mobile communication systems track and trace their users across physical as well as virtual contexts, for better or worse. Returning to Figure 1, such interactions constitute an additional type of many-to-one communication, and they feed into subsequent one-to-one, one-to-many, and many-to-many communications, on the same or different platforms. Archived and accumulated, metadata remain mobile across technological and social contexts. As such, they are among the most central data for future research on the trajectories of the information, users, and contexts of so-called mobile media.

5 What's mediated in mediated communication?

The common terminology of mediated communication raises a question: When is communication *unmediated*? The immediate answer is that the terminology is simply short for technologically mediated communication; one important task for current research is to account for the differences (and similarities) between analog and digital technologies of communication. A historical answer would be that, from the outset, the field has sought to account for the affordances of different media technologies for human interaction, always with embodied or face-to-face communication as the bottom line. In medium theory, the question has been how is each medium “different from other media *and from face-to-face interaction*?” (Meyrowitz 1994: 50, emphasis added). The field of communication research still resounds with the dream of communication as authentic “contact between interiorities” (Peters 1999: 21), perhaps tempered by a realization that “dialogue may simply be two people taking turns broadcasting at each other” (264).

Mobile media and communicative practices present communication scholars with an opportunity to revisit different conceptions of mediation and their implications for further research. The first conception, as noted, is that of technological mediation – from writing and print, through film and broadcasting, to the internet. A classic issue from the domain of telephony is noise getting in the way of the transmission of signals (Shannon 1948); more recent work has pointed to the reduced cues that may be experienced as a degrading of contact in computer-mediated communication (Thurlow, Lengel & Tomic 2004). A second conception approaches mediation less

as a problem or obstacle than as a condition of any human communication, including face-to-face interaction. Since classical rhetoric, communication theories have sought to account for the verbal and non-verbal signs and symbols that are necessary vehicles for the sharing of information or meaning. Third, communication mediates not only representations *of* reality, with different degrees of noise and decay, but interactions *in* and actions *on* a reality that communicators already share. In this broad sense, communication accomplishes the social construction of reality (Berger & Luckmann 1966). Taken together, the three conceptions are the legacies of natural sciences, humanities, and social sciences. Mediation is material, discursive, as well as institutional. Each medium, including embodied humans, mediates in all of these respects; different media afford different kinds and degrees of mediation in each of these respects, which makes each medium a distinctive social resource.

Mobile media, with smartphones as the current prototype, have introduced new means of mediation and interaction. Through technological mediation, we can access family members and world events live. Through discursive mediation, we express and present ourselves in everyday life, whether at work or at play, in a growing repertoire of signs and modalities. And, through institutional mediation, we participate in and contribute to that “symbolic process whereby reality is produced, maintained, repaired and transformed” (Carey 1989a [1975]: 23). Mobile in hand, we do so across space and time. Infrastructures in place, we do so as participants in absent contexts and territories, and into an unknown future for our data and metadata.

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Part V: Contemporary Issues

Martha Fuentes-Bautista and Christine Olson
27 Digital Divide

Abstract: This chapter discusses findings of a meta-analysis of the digital divide literature developed over the last decade regarding access to internet services, differential use, and participatory gaps, identifying factors shaping *information poverty* in information abundant, digital environments. Drawing on a human development and capability approach (HDCA), our analysis reveals that research still straddles both concerns with technological diffusion, and examination of factors that perpetuate uneven access and use. Significant advances have been made charting differential usage among populations and exploring how skills and literacies relate to actual outcomes for users.

However, we point to the need for multi-layered approaches to the study of digital inequalities, accounting for the interactions between factors that shape first, second and third level digital gaps. Based upon these findings, we offer an extended model of digital inequalities to develop research and interventions addressing the multifaceted nature of digital inequalities in contemporary media ecologies. Finally, we urge researchers and practitioners to develop more sustainable models that integrate supply and demand interventions to bring effective solutions to ever-evolving digital gaps.

Keywords: digital divide, digital inequalities, human development, capability approach, information poverty, broadband policy, digital literacy, critical information needs of communities

1 Introduction

As Internet services reach half of the world's population (ITU 2017), and 89% of Americans have gone online (Pew 2018), ever-evolving media ecologies complicate the project of addressing gaps in access and use of digital technologies. Tracing the advances and limitations in the digital divide literature regarding perspectives, problems, and methods of investigation over the last decade, this chapter identifies pending questions in the research agenda of social science scholars and policy analysts who posit that digital inequalities be considered a new form of social inequality (DiMaggio et al. 2004; Hargittai 2008; van Dijk 2005; Warschauer 2003).

This analysis is informed by research on critical information needs of communities, which attends to the mechanisms and impacts of exclusion from contemporary media ecologies (Friedland et al. 2012; Lloyd & Friedland 2016). Assuming a human development and capability approach (HDCA) to the analysis of digital inequalities in information abundant, digital environments (Schejter & Tirosh 2016), we trace continuities and gaps in the scholarship with particular attention to conditions

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which enhance or hinder digital communication capabilities of diverse individuals and communities. Specifically, this chapter examines the digital divide literature in four areas: (1) evolving perspectives on digital inequalities; (2) opportunity, extent, and quality of physical access to Internet services; (3) motivations, skills, and literacies shaping differential Internet use; and (4) digital content creation and participatory gaps.

Our evaluation of the literature reveals that digital divide research still straddles both concerns with technological diffusion, and analyses of factors that perpetuate uneven access and use. Significant advances have been made charting differential usage among populations and exploring how skills and literacies relate to actual outcomes for users. Individual-level analyses dominate the literature and thus researchers have renewed the call for multi-faceted and multi-level analyses which attend to the interaction between social conditions and modalities of access, stratification of Internet use, and social purpose and benefits of these pursuits – particularly for marginalized populations (Katz & Gonzalez 2016; van Deursen & van Dijk 2015b). Based on the review of the literature, we identify key factors to be considered by future research that explores the interactions between different levels of the digital divide, and their impacts on individual and community well-being.

2 Evolving perspectives on digital inequalities

Early research addressing the digital divide privileged a diffusionist approach that tracked access gaps between “haves” and “have-nots” within and across countries, and along age, geographic, ethnic, educational, and income divides (Norris 2001). A competitive market of information communication technologies (ICT) was assumed as the primary social space where “consumers” would adopt Internet-based innovations, delivering the benefits of the technology to everyone (Compaine 2001). The strongest critiques to this perspective have been articulated by political economists of communication who see the digital divide as the result of increasing deregulation, concentration, hyper-commercialization, and segmentation of global ICT markets, with no incentives to compete and meet the demand of low-income users (Schiller 1999; McChesney 2013). As the Internet developed globally, the need for multi-layered analyses of the complex relation between technological diffusion and rising social inequalities worldwide has become more evident.

Over the last decade, discussions of digital inequalities related to *the knowledge gap hypothesis* developed, exploring why individuals with higher socioeconomic status (SES) benefit most from access to information resources (DiMaggio et al. 2004; Hargittai 2008; van Dijk 2005). They emphasize that access is never enough to ensure effective Internet use, investigating how individual differences in SES, motivations, and skills relate to differential technology usage. DiMaggio et al. (2004) identify five dimensions of digital inequality: (1) opportunity, quality, and extent of physical access;

(2) conditions that support autonomy of use; (3) skills, literacies, and knowledge of technology; (4) social support and motivation to use these services; and (5) purpose of Internet activities. Research has confirmed that while physical access gaps keep narrowing, the extent and scope of online pursuits and content creation activities vary according to skills, gender, and SES (Correa 2010; Hargittai & Hinnant 2008; Hargittai & Walejko 2008; Schradie 2012; van Dijk & van Deursen 2014). Scholars have also related these persistent “second-level divides” to gaps in digital literacies and social capital that mediate online pursuits (Brandtweiner, Donat & Kerschbaum 2010; Livingstone 2014).

Rather than assuming that skills and autonomous use can secure social inclusion, recent studies have traced the contours of “third-level divides,” testing the relation between Internet usage and individual outcomes (DiMaggio & Bonikowski 2008; van Dijk & van Deursen 2014; van Deursen & Helsper 2015). They have found that SES, social networks and to a lesser degree, different types of material access, are positively related to social and economic benefits accrued by Internet users.

Another strand of research has interrogated the role of social power in the reproduction of digital gaps, attending to symbolic and social structures in which Internet development and use are embedded (Warschauer 2003; Gilbert 2010; Kvasny 2006; Straubhaar et al. 2012). Drawing on Bourdieu’s critical sociology of culture and methods, researchers have found associations between the reproduction of digital gaps and institutional practices of service providers; policy discourses shaping the availability of services; histories of segregation and unequal distribution of digital infrastructure in particular communities; and family trajectories, users’ techno-dispositions, and unequal possession of social, economic, cultural, and techno-capitals (Brock, Kvasny & Hales 2010; Dutton & Blank 2015; Rojas et al. 2012). This scholarship has greatly contributed to our understanding of socio-cultural dynamics shaping digital inequalities in particular locales, mostly linked to processes of stratification of labor and uneven economic development of urban areas and high-tech cities.

However, individual level analyses that cannot completely account for micro-, meso-, and macro-level interactions at play in the reproduction of digital gaps that continue to dominate the literature. In this context, researchers have renewed the call for multi-level and multi-faceted analyses to better capture agency-structure dynamics of stratification in ever-evolving information ecologies (Katz & Gonzalez 2016; van Deursen & van Dijk 2015b). They stress the need to better understand how material access, service provision, community resources, and family dynamics interact with meaningful individual-level Internet connectivity and use. We contend that addressing these questions demands a narrower focus on the analysis of the relationship between growing stratification of Internet access and use, poverty, and processes of marginalization of vulnerable populations. As Schejter and Tirosh (2016) aptly argue, in the age of information abundance, policy discussions should start by asking “who the least advantaged are” and “how their condition could be improved” (119).

The next section considers different dimensions of *information poverty*, and advances its interpretation through a human development and capability lenses.

2.1 Information poverty and communicative capabilities

Few scholars have examined the relation between poverty, marginalization, and digital gaps. From a class analysis and labor perspective, Qui (2009) refers to “information have-less” and “working-class ICTs” to describe the experience of marginalized users in urban China (i.e. migrant workers, laid-off workers, low-income students, and retirees). These low-end ICT users not only straddle have and have-not categories but are also positioned between formal and informal economic activities. They are more reliant on mobile access and develop unique forms of “network labor” that reflect precarious work conditions characteristic of global capitalism. Research has found similar dynamics of precarious connectivity and work in poor communities in the U.S., where limited availability and the high cost of technology maintenance are associated with un-adoption, transient, and limited Internet use (Dailey et al. 2010; Gonzales 2016).

Influential attempts to rethink the relation between the digital divide and poverty from a social justice perspective reframe it as a problem of “information equity” (Couldry 2007). Eubanks’s (2011, 2017) ethnographic studies of poor, working class women and low-income users of social services in the U.S. interprets the digital divide as “information poverty” resulting from technological and social oppression. Eubanks argues that interventions should replace the “deficit model” that assumes participants are unskilled users, with a “cognitive justice” approach that employs existing local knowledge ecologies and information practices in the appropriation of ICT (2011: 151).

Drawing on Amartya Sen’s human development and capability approach (HDCA), development communication and ICT for development (ICT4D) scholars have advanced more complex operationalizations of the equity perspective (Jacobson 2016; Gigler 2015; Kleine 2013; Servaes & Oyedemi 2016; Tacchi 2012). More recently, Schejter and Tirosh (2016) persuasively called for the reformulation of digital media policy, considering its connections with redistributive justice and democracy under a HDCA. Sen (1992) sees poverty essentially as “capability deprivation”; equity is realized through *capabilities* or real opportunities and abilities citizens have to achieve particular *functionings* in society (e.g., being well-nourished, healthy, employed, etc.). More than the enjoyment of certain functionings, Sen privileges the *availability of choices* as well as the *actual ability of people* to make choices they consider fundamental for their well-being in particular social contexts.

Translating these ideas to research on digital inequalities, scholars examine how individual, institutional, and community adoption of ICT expands or constrains

“voice” and “public deliberation” (Couldry 2007; Jacobson 2016; Tacchi 2012), information and communication “opportunities and choices” (Kleine 2013), and “informational capability” (Gigler 2015) necessary to fully participate in today’s society. Although operationalizations of these ideas vary, empirical applications of the HDCA are characterized by multilevel and multi-method designs that consider the connections between individual, institutional, and community-level assets. As Jacobson (2016: 807) argues, “capability choices are not decisions that are simply made in the minds of individuals” but the result of material and social conditions that support public deliberation and communication. In this context, access institutions (e.g. schools, libraries, NGOs, local government, ISPs) act as *information intermediaries* influencing how local communities interpret, appropriate, and adapt ICTs to their sociocultural context and needs.

From a policy perspective, the HDCA approach can extend the analysis of community information needs in meaningful ways by focusing on communicative capabilities that support social inclusion. We define *communicative capabilities* as the symbolic, material and cognitive conditions and abilities that support autonomous communication (i.e. enjoying effective access opportunities and choices, availability of critical information, having social networking abilities, voicing one’s political concerns, being heard and respected, etc.). Studies and interventions to expand communicative capabilities consider the interactions between *individual-level capabilities or choices* – such as possession of hardware, motivations, literacy, and skills – and *institutional-level capabilities or resources* that enable technology use, including availability, accessibility, transmission capacity, and affordability of Internet-based services. We see in the HDCA a generative framework to meet the continuous challenge of analyzing how digital inequalities may affect the production, distribution, and consumption of information in critical areas for inclusion, such as health, education, emergency and public safety, economic development, the environment, transportation, and civic and political life (Friedland et al. 2012). This framework can also inform policy and interventions aimed at the specific needs of information poor communities. The following sections reexamine the literature on first, second and third level digital inequalities to identify critical factors that affect information poverty, identifying opportunities to craft interventions to address them.

3 Gaps in opportunity, extent and quality of physical access

The original view of a first-level digital divide as the gap between those with and without home Internet access has been replaced by more nuanced operational definitions of physical access as opportunities, extent, capacity and quality of wired and

wireless Internet-based services. There has been strong progress in analyzing service capabilities and locations; however, researchers still face challenges identifying consistent and relevant metrics of access in a mobile, converged media environment. Physical access is hardly a one-dimensional category. It can refer to availability of, subscription to, and quality of high-speed Internet services; ownership of different devices; or conditions and stages in the adoption process (e.g., non-adoption, un-adoption, sustainable use, dependent use, etc.). This section summarizes current discussions of physical access gaps, suggesting to refocus attention on issues of broadband competition, network performance, pricing, and community access as factors that impact capabilities for Internet access.

3.1 Broadband, mobile access, and technological capacities

High-speed Internet services are critical to reap the benefits of advanced web applications. Our broadband ecosystem encompasses a variety of transmission technologies – from digital subscriber lines (DSL), cable, and fiber optic to satellite and wireless connections – with great potential variation in speed for sending and receiving data. As mobile subscriptions approach levels of global saturation, the ITU (2016) stresses that half are mobile-broadband subscriptions with the potential to extend connectivity to underserved populations. However, researchers question if uneven coverage, pricing, and performance of mobile services may further the stratification of Internet access worldwide (Hilbert 2016).

In the U.S., government data show that as Internet access moved from dial-up to broadband, rural-urban divides remained remarkably consistent, with 69% of rural residents using the Internet versus 75% of urban residents in 2015 (NTIA 2016a). Empirical analyses demonstrate that infrastructure availability explains approximately 38% of this gap (Whitacre, Strover & Gallardo 2015), while population density, income, degree of urbanization, and local economic structures are often related to uneven service provision (Flamm & Chaudhuri 2007; Grubestic 2008; LaRose et al. 2007; Prieger & Hu 2008). They also suggest that lack of competition further marginalizes rural areas. In fact, only a third of Americans have more than one choice of fixed broadband provider that meets the FCC threshold for broadband of 25 Mbps download/3 Mbps upload, and 30.7% of Americans in rural areas and 35.4% of those in Tribal lands lack this option (FCC 2018).

While mobile broadband connections continue expanding, research has found evidence that service coverage often replicates metro-non-metro gaps (Grubestic 2012). However, in its “2018 Broadband Deployment Report,” the FCC (2018) downgraded the parameters for measuring mobile broadband speed to minimum advertised speeds of 5 Mbps/1 Mbps, and actual median speeds of 10 Mbps/3Mbps. Under the new parameters and crediting deregulation of broadband Internet access services,

the agency has concluded that “advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion” (FCC 2018: 49). This decision is worrisome since monitoring access divides in terms of availability and subscriptions to any service might not be sufficient anymore, as not all have the same transmission capacity. Comparing gaps in installed national bandwidth of fixed and mobile services among 172 countries from 1986 to 2014, Hilbert (2016) questions the ability of wireless services alone to bridge broadband gaps. The analysis reveals that in spite of the growth of mobile phone subscriptions, these services are not associated with consistent transmission capacities. Moreover, “bandwidth divides” are mostly associated with income gaps.

Mobile devices and network architecture also pose challenges for users. Studies comparing wired-only, wireless-only, and wired-wireless Internet use confirm that smartphone use is likely to aggravate demographic, access, skills, and content gaps, limiting active engagement in diverse online activities (Lee, Park & Hwang 2015; Mossberger, Tolbert & Hamilton 2012; Napoli & Obar 2014; Whitacre 2017). In the U.S., a growing number of Americans (12%) now use smartphones as their only means of connectivity (Pew 2018). “Smartphone-dependent” Internet users are more likely to be non-Asian minorities, low-income, young adults, who have not completed high-school education. These trends confirm the thesis of an emerging mobile Internet underclass around mobile services that function as a second-class form of access (Mossberger, Tolbert & Hamilton 2012; Napoli & Obar 2014).

In the U.S., regulators recognize these differences, stressing that mobile-broadband is not considered a functional substitute for fixed-broadband services, and meets different consumer needs (FCC 2018). However, by accepting lower standards for mobile broadband connectivity regulators effectively sanction the creation of infrastructure with tiered access systems. While technological evolution could ultimately address network capacity issues, research indicates that service availability and lack of competition still limit access opportunities and choices for many.

3.2 Non-adoption, un-adoption, and technology maintenance

An individual’s ability to subscribe to high-speed Internet services at home remains the universal indicator of broadband adoption, and 27% of American households do not subscribe to broadband (NTIA 2016b; Pew 2018). National surveys of broadband diffusion have mostly relied on socio-cognitive models that relate subscription decisions to individual motivations and SES. Those with lower incomes and levels of education, non-Asian minorities, people with disabilities, and rural dwellers are less likely to have high-speed Internet at home. In the last five years, home broadband has plateaued and never exceeded 73% of

the American population (Pew 2018), well below the 83% household penetration reported among developed countries (ITU 2016).

Recent studies of broadband adoption in connected environments emphasize the combined effect of supply and demand dynamics shaping diffusion. Comparisons among OECD countries reveal that income, education, and population density as well as price, competition, and online content influence fixed-broadband subscriptions (Lee & Lee 2010; Belloc, Nicita & Rossi 2012). Relating predictors to different stages of broadband uptake in these countries, Lin and Wu (2013) find that while income, education, and content drive home broadband adoption among “innovators” and “early adopters,” supply factors such as platform competition, previous Internet service, and price explain subscription decisions among “late adopters” and “laggards.”

In the U.S., issues of relevance, cost, digital literacy, and lack of proper equipment are among the main reasons for non-adoption (NTIA 2016b). Whitacre, Strover and Gallardo (2015) find that beyond absence of service, differences in income and education explain roughly half of national rural-urban gaps. The authors lament the lack of pricing data to better assess demand elasticity of the service. In fact, we find a dearth of studies on affordability and broadband diffusion in the U.S. This omission is due in part to lack of reliable and comparable data, and to the unwillingness of regulators to collect this information.

Although the literature accounts for different non-user groups – such as sporadic users, dropouts, net-evaders and unconnected – it was not until 2011 when the Census Population Survey (CPS) started tracking problems of “un-adoption” or discontinued use of technology. The term was first introduced by Dailey et al. (2010) in their qualitative study of broadband adoption in three low-income communities, which found that physical access among the poor is highly contingent on price, limitations of equipment, time, and context of use. Employing data from recent CPS and the FCC Low-income Broadband Pilot Project, Whitacre and Rhinesmith (2016) confirm that un-adopters are significantly more likely to cite cost, use of Internet elsewhere, and hardware problems as reasons for discontinued use.

Qualitative studies have shown how computer age, lack of upgrades and peripherals, slow connection, and time restrictions for using services increase access costs, severely limiting the Internet experience of users in poor communities (Dailey et al. 2010; Eubanks 2011; Kvasny & Keil 2006; Rhinesmith 2012; Robinson 2014). These studies also point to a larger shift of physical access gaps from simple issues of ownership of devices and service subscription to larger problems of “technology maintenance” and cycles of “dependable instability” (Gonzales 2016) by which low-income users maintain precarious connectivity. In these contexts, negative attitudes and techno-dispositions can be understood as logical responses to technologically adverse and socially oppressive environments characteristic of low-income communities (Eubanks 2011, 2017; Gonzales 2016; Rojas et al. 2012).

3.3 Community access as info-intermediaries

Libraries, schools, community centers, and other places offering public broadband access are a technological lifeline for less-connected individuals (Dailey et al. 2010). Youth and minorities are among the most frequent public access users in the U.S. and abroad (Horrigan 2016a; Proenza 2015). Although universal services policies traditionally conceive Internet access at anchor institutions and public sites as a temporary solution for those who do not enjoy home access, the literature indicates these places complement and enhance people's online experiences by facilitating navigation opportunities, access to information, collective learning experiences, and sociability (Gigler 2015; Klein 2013; Proenza 2015; Warschauer 2003). Yet those who depend upon public access as their primary means of going online lack the regular, around-the-clock access that home Internet connections afford.

The role of libraries as intermediaries of Internet access make them a key institution in local communication ecologies in the U.S. (Friedland et al. 2012). These spaces are not only valued for their digital information resources, but also as trusted spaces for community connection (Rhinesmith 2012). Unfortunately, budgetary constraints often hinder libraries and staff in disadvantaged areas from keeping pace with constant technological change (Anderson & Whalley 2015). National surveys confirm that the majority of public libraries do not have enough computers to meet the demand and expectations of the public, and while most city libraries have IT support staff and technology training, fewer rural libraries have such resources (Bertot, Jaeger & McClure 2010; Horrigan 2016a).

While informal or self-directed learning has received much attention for its potential to improve digital literacies, research is mixed on who most benefits from such activities. Recent studies suggest self-teaching is not as beneficial for the “have-little” students, emphasizing the need for guided, in-school instruction to improve digital literacies (Matzat & Sadowski 2012). Favorable school-based information opportunity structures can compensate for inadequate informational resources at home (Robinson 2014); however, electronic resources that are not culturally relevant, a lack of support for instructors, or instructor reluctance could hamper technology learning in schools (Beastall 2006; Radovanović, Hogan & Lalić 2015).

The boom of wireless broadband has fueled the growth of public access solutions worldwide. Cross-country studies find that cybercafés are three times more likely to serve as public Internet access points in developing countries, displacing *telecenters* or dedicated spaces operated by NGOs or local governments (Gomez 2012; Proenza 2015). However, research shows that telecenters tend to be more inclusive, serving the needs of those who have no other option for computer and Internet access. By contrast, cybercafés tend to meet the needs of continuous connectivity and sociability of those who already enjoy other means of access.

A similar shift has taken place in the U.S., where commercial hotspots and municipal Wi-Fi networks have replaced community technology centers (CTC) that

a decade ago offered computer and Internet access and training. Few studies have assessed the impact of public wireless-broadband solutions on digital gaps (Forlano 2009; Fuentes-Bautista & Inagaki 2006; McConnell & Straubhaar 2016). They have found that users of these networks are more likely to have higher levels of education and techno-capital, and mostly use connectivity at coffee shops and public spaces for work and entertainment. Even open, municipal mesh networks that partially serve low-income areas are not used by disadvantaged groups in meaningful ways. These results underscore the importance of possessing hardware, technical skills, and education to take advantage of wireless broadband networks. By contrast, community and municipal programs that promote training and local content creation are more effective in bridging both digital and participatory divides (Fuentes-Bautista 2014).

In conclusion, service availability, quality, choices, pricing, and modalities of public and community Internet access greatly influence sustainable broadband adoption. This process also influences differential usage, shaped in turn by a host of factors discussed in the following section.

4 Usage, skills, and literacies

Usage patterns depend on both technological conditions of access and an individual's socio-economic and cognitive resources; thus digital divides in usage persist even when physical access reaches parity. Research on these "second-level" digital divides has examined usage disparities associated with socio-economic and motivational differences. Recent studies have explored more complex models, which also consider quality of technological access, autonomy of use, social support resources, types and purposes of use, and skill/literacy levels of users. While we find that much progress has been made on explaining the nuances of use and Internet-related skills on an individual level, future research should attend to the social dynamics of media and information ecologies, such as family and peer-group influences; literacies required to expand communicative capabilities in areas critical for social inclusion (e.g., education, health, politics); and the potential (mis)match between emerging online practices and services, and the context of use.

4.1 Differential Internet use

Much like first-level access divides, differential Internet use is often structured by education, income, gender, and age (NTIA 2016c). However, contrary to access divides, studies have found that income and education are negatively associated with frequency of use; thus, among low-income users or those with lower educational attainment – once access is secured – Internet use is mostly a low-cost leisure activity

(Goldfarb & Prince 2008; van Deursen & van Dijk 2014). Researchers now agree that frequency and time spent online alone are not sufficient to explain effective Internet use. Measures of Internet use should consider the *amount*, *variety*, and *types* of use (Blank & Grosej 2014).

Much of the second-level digital divide research is predicated on the *usage gap thesis* which assumes “that some Internet usage activities are more beneficial or advantageous for Internet users than others” (van Deursen & van Dijk 2014: 509). Often termed *capital-enhancing activities*, these beneficial uses included “activities that may lead to more informed political participation...help with one’s career advancement...or consulting information about financial and health services” (Hargittai & Hinnant 2008: 606–607). Differential use could thereby exacerbate information inequalities and, consequently, social inequalities more broadly. For instance, scholars have suggested that those with higher SES are more likely to participate in capital-enhancing activities (Hargittai & Hinnant 2008; van Deursen, van Dijk & Ten Klooster 2015). Indeed, beneficial uses of the Internet such as government services, banking, purchasing, and employment searches have been found to vary according to class and educational level (White & Selwyn 2013). While this research has connected dynamics of use to potential outcomes, more research is needed to understand under what conditions particular uses enhance communicative, human, and social capabilities in specific contexts.

In addition to individual predictors of use, recent research has emphasized social predictors of use, such as household and peer effects. For example, Micheli’s (2015) surveys and interviews with Italian high school students did not support a linear relationship between SES and more capital-enhancing behaviors online. Instead, Micheli (2015: 36–37) found that “privileged social contexts” lead to “vertical” understandings of the Internet, where youth connect with adults and opportunities. On the other hand, “less advantageous social and cultural contexts” lead to “horizontal” understandings of the Internet as a facilitator of peer connections. Family dynamics and social support are also important to Internet usage among adults. In a study of U.S. adults over 65, nearly half (48%) reported relying on others to set up and teach them about their electronic devices (Anderson & Perrin 2017). In Britain, Eynon and Helsper (2015) found that households with pre-teens or teens had higher rates of access and use although the socio-demographics of the adults were more important to usage than the presence of children. As these studies demonstrate, the social context of use and local media ecologies are important to shaping usage patterns.

A common research approach to better capture the ubiquity and increasing diversity of Internet activities is the creation of user typologies (see Blank & Grosej 2014). Typologies can challenge monolithic conceptions of populations such as the assumption that all young Internet users are tech savvy. For instance, Livingstone and Helsper (2007) offer a continuum of use that suggests young people who have been online longer and who have more digital skills take up a broader range of online opportunities. Their stepwise approach was critiqued by Holmes (2011), however,

whose study of Ofcom's "Young People and Media Usage Survey" did not find evidence of a continuum. Instead, Holmes suggested that the activities of youth move toward more divergent uses rather than increasing in scope. Such fragmented use introduces a theoretical and methodological challenge regarding what kinds of use should be considered meaningful, and more research and discussion is needed about relevant operational definitions and metrics.

4.2 Motivations, digital skills, and literacies

Real or perceived differences in the know-how to effectively use ICTs could also influence the outcomes of what uses are taken up. Gui and Argentin (2011), for example, found women had lower theoretical skills regarding the logics of technologies, and Hargittai and Shafer (2006) found women's self-perception of skills is lower than men's even when actual skill levels do not differ. In addition to user demographics, DiMaggio et al. (2004) highlight how the emotional impact of use – "whether users felt frustrated or gratified at the session's end" – could influence future use (378). Indeed, empirical analysis have found that cultural values and perceived utility of ICTs, attitudes, and motivation explain the stratification of online experiences (Blank 2013; Dutton & Blank 2015; Verdegem & Verhoest 2009).

Recently, research has worked to operationalize dimensions of Internet skill to find possible spaces of intervention. Van Deursen and van Dijk (2011) suggest a skills model that consist of medium-related skills (i.e. operational and formal) and content-related skills (i.e. informational and strategic). They found that Internet experience contributes to medium-related skills but not content-related skills and that older participants were found to have better content-related skills but lower medium-related skills. Higher education leads to higher levels of all four skill types (van Duersen & van Dijk 2011) and a longitudinal study of the Dutch population revealed an increasing gap in skills between higher educated participants and the middle/low educated participants (van Deursen & van Dijk 2015a). Together these studies highlight the increasing importance of content-related skills and the enduring impact of educational differences.

Literacy approaches, meanwhile, explore how social and communicative practices shape literacy needs in particular contexts. Livingstone (2014) employed a media literacy framework to young people's use of social networking sites (SNS) and found that during different stages in their lives, the contexts and motivations for SNS use differ and thus literacy is shaped by both the affordances of the SNS and the social development of the young person. Friemel and Singer's (2010) study of blogs and Wikipedia considered usage, knowledge, production, and reception as separate dimensions of Web 2.0 literacy and found that knowledge did not necessarily result in more usage and posited that it was a lack of need rather than skills that explained non-use.

While researchers have explored the multi-dimensional and situated nature of Internet use, policy often relies on simplistic measures of digital literacy to explain digital divides. Research has shown that perceived and actual competence influence use and thus measures should take into account both subjective and objective measures of skills (Brandtweiner, Donat & Kerschbaum 2010). Furthermore, policies regarding digital literacies need comprehensive conceptualizations that consider not only operational use but also effective engagement with content and services. Toward these ends, van Dijk and van Deursen (2014) suggest a “target group strategy,” emphasizing how different user groups such as older adults, migrants, or those with disabilities have different literacy needs.

We need more expansive measurement tools for digital literacies to assess the needs of target user groups and design effective policies that address them. One promising approach has been forwarded in the Pew research center’s analysis of “Digital Readiness” (Horrigan 2016b). Horrigan employed a user typology approach to understanding digital readiness for e-learning which was conceptualized as involving skills, trust, and use. *Skills* were captured through both subjective measures of confidence with technology and objective measures of domain-specific knowledge regarding terms and concepts associated with e-learning; *trust* explored user beliefs about the trustworthiness of online information; and *use* charted the activities of users. The content-specific nature of this operationalization is an important contribution as it explores literacies relevant to the beneficial use of e-learning. To assess domain-specific readiness in other areas that are critical for community life (e.g. health, e-government), scholars must identify the literacies, terms, and concepts that would signal readiness. Moreover, considering the disparities found by previous research on content-related skills gaps (van Deursen & van Dijk 2011; van Deursen & van Dijk 2015a), there should be more emphasis on measurements of subjective and objective media literacy skills regarding evaluation of content in addition to the trust dimension.

5 Content production and participatory gaps

Hargittai and Jennrich (2016) argue that one of the challenges of evaluating research on online participation divides is the broad way in which scholarship defines online content creation. Studies on content creation gaps have examined differences among technological platforms employed (e.g., wikis, SNS, blogs, etc.); forms of expression (e.g., comments, votes, links, videos); content topics (e.g., politics, sports, health, etc.); degree of publicness, and type of community or audience targeted by content creation efforts (201). Overall, they have found that younger, male users with higher educational levels and living in urban areas are more likely to be content producers (Correa 2010; Hargittai & Walejko 2008; Blank & Groselj 2014). However, some studies

claim that entertainment and social content is more likely to be created by non-elites, such as lower-income people or ethnic minorities (Blank 2013).

Current debates on meaningful operationalization of online participation focus on the purpose of these activities, the complexity and skills needed to perform them, and the actual offline outcome or benefit derived by users across countries. For instance, analyzing users in the U.K., Blank (2013) distinguished between three forms of online content production, exploring differences regarding skilled content (e.g. maintaining a website or blog), social and entertainment uses, and political content. In a response based on her analyses of U.S. users, Schradie (2013) highlights the theoretical and methodological complications that arise from conflating online activities with online content per se, and comparing different user populations at different stages of the adoption curve. Meanwhile, examining Dutch Internet users, van Deursen and Helsper (2015) stressed that the critical question is how outcomes of Internet use translate into (dis)advantages in society. They confirm the existence of a third-level digital divide along social status, and not in terms of how extensively users engage with technology.

Building on these insights, we argue that rather than focusing on content creation gaps across technological platforms or forms of expression, a situated capabilities approach to participation online would work for understanding the material, symbolic, cognitive, and social conditions that help Internet users derive social benefits from capital-enhancing online activities in critical areas for people's wellbeing and inclusion (i.e. health, education, public safety, economic development, civic and political life, etc.).

6 Conclusions

Informed by the HDCA, the previous sections have critically assessed recent scholarship on digital divides, focusing on approaches and methods of investigation; extent and quality of physical access; factors shaping differential internet use; and participatory gaps. This assessment shows that, as technology evolves and larger swaths of the population go online, scholarship has straddled tradition and transformation in the analysis and interpretation of digital gaps.

Diffusion approaches still dominate discussions on physical access gaps in the era of broadband. However, a new generation of studies has tested the combined effects of supply and demands dynamics in the stratification of high-speed Internet services, particularly in light of the rapid diffusion of wireless-broadband. They show that physical access barriers are far from disappearing, and go beyond service availability to include service quality and capacity, pricing, competition and choice. Research also confirms the emergence of a new mobile Internet underclass, and various forms of precarious connectivity that mostly affect low-income and marginalized communities.

Research inspired by digital inequalities perspectives has demonstrated that even when physical gaps are bridged, further stratification of usage continues and is linked to SES, skills, and literacies. More recent studies have explored the relation between quality of technological access, autonomy of use, and outcomes. However, we find that future research should deepen the analysis of how social dynamics of media and information ecologies (e.g. family, peer-group influence, informal learning environments, etc.) expand or constrain communicative capabilities in areas critical for social inclusion (e.g. education, health, politics, etc.).

Our analysis also problematizes unidimensional accounts and bivariate analyses of the digital divide that overlook the interactions between different *levels* of the divide (access, use, and outcomes or benefits) and structure-agency dynamics that shape and reproduce digital gaps. As first formulated more than a decade ago by DiMaggio et al. (2004), the research agenda on digital inequalities invited scholars to examine the impact of Internet access on life chances by understanding how socially situated, quality Internet access, effective use, and social support influence the generation of social and human capital. However, research has narrowly focused on examinations of dimensions of this model, overlooking the interaction among them. Figure 1 illustrates how our analysis of the literature can expand the research agenda put forward by DiMaggio et al. (2004) by focusing on the interactions between micro-, meso- and macro-level variables.

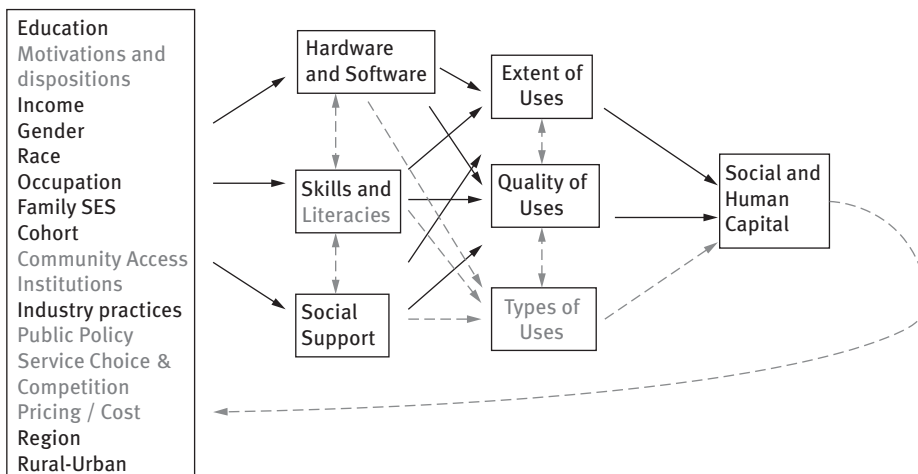


Figure 1: Impact of internet on life chances: Extended HDCA model. (adapted from DiMaggio et al. 2004)

Highlighted in grey, Figure 1 shows the factors added to the model based on our review of the contemporary literature. For instance, research has shown that motivations and dispositions fostered in particular environments greatly impact individual decisions on material access and use. The role of information intermediaries – social

networks and institutions – is equally important, particularly in underserved populations. More attention should be paid to how public policy, industry practices, and service conditions influence the availability of choices and opportunities of access as both affect individual and institutional communicative capabilities.

Finally, in the public policy domain in particular, we need more coherent and sustainable models that integrate supply and demand interventions to bring effective solutions to digital gaps. As Strover (2014) aptly argues, U.S. policy has wavered between unsystematic efforts to extend physical access and a forthright affirmation in the ability of the market to deliver the benefits of technology to everyone. Whereas all administrations have made significant investments in broadband infrastructure, digital literacy and sustainable adoption efforts have followed a piecemeal implementation approach through underfunded NGOs and local programs without continuity or clear, long-term goals. As the literature demonstrates, community and public access play a critical role in shaping individual and community expectations and capacities for sustainable adoption, and more coherent and integrated public policy is needed for these programs.

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28 Exposure Diversity

Abstract: The digital environment has fundamentally changed the conditions for media diversity and for exposure diversity in particular, and has made research in this area more important than ever. Paradoxically, the digital information environment, with its abundance of information, has greatly expanded, and at the same time decreased the opportunities for citizens to encounter diverse content. Never was it possible to receive more information, not only from the traditional national media outlets, but also from a myriad of other media companies. And more than ever do citizens rely on the media but also on new institutions such as search engines, social networks and recommendation algorithms to help them filter through the rich choice of information and find and identify relevant and trustworthy information. The objective of this chapter is to identify the main structural, technological and individual challenges for exposure diversity, the state of the art of exposure diversity research so far, and the contours of a future research agenda. In particular, we stress the need for more comparative work, more research that combines normative and empirical expertise, but also work on methodological innovation. We explain why methodological innovations, in the form of online behavior tracking or new forms of observational computational research, can open up new and exciting avenues for answering questions that could not be studied before.

Keywords: exposure diversity, exposure to dissimilar views, democratic theory, interdisciplinarity, normative-empirical research

“There can be no democracy without pluralism”

(European Court of Human Rights 2012)

1 Introduction

The idea of a society in which different people with different opinions are free to engage with others is a prominent condition in democratic theories. Diversity is a normative value, with a long tradition in free speech and democratic theory. Democracies do require that “people in general, and especially differing groups, get to debate their views internally among themselves, receive information relevant to their interests and views, rally support for their group, and finally present their views to the world at large” (Baker 2007: 31–32). Diversity is also a social reality in the sense that each society inevitably consists of individuals that differ in origin, beliefs, history, traditions, political leanings and interests – differences that need to be faced, encountered, and negotiated for a democratic society to function. Insofar, diversity is not

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only about the ability of different speakers to express their views and opinions and make themselves heard. It is also about being exposed to these diverse ideas, engaging with them and, ultimately, forming one's own beliefs on their basis. Expression of and exposure to diverse ideas and opinions are consequently two corresponding ends when talking about diversity and the role of the media in a democratic society. The diversity of supply, of sources and ideas in the media has a long tradition in communication research. The question of if, how, and under which conditions citizens are actually exposed to diversity in the media – exposure on the ground, so to speak – has turned into another important route of inquiry.

The digital environment has fundamentally changed the conditions for media diversity, and for exposure diversity in particular, and has made research in this area more important than ever. Paradoxically, in the digital information environment citizens have more information available than ever before, and yet, it has become far easier to avoid exposure to diverse media content. Never was it possible to receive more information, not only from the traditional national media outlets, but also from a myriad of other media companies. And more than ever do citizens rely on the media to help them filter through the rich choice of information and find and identify relevant and trust-worthy information. While providing readers with a diverse mix of information has traditionally been a key task for the media, in the digital environment, new players have entered the scene that provide this service to users. Search engines, news aggregators and social networks play an increasingly critical role in helping users to select information (Van Dijk 2012). And next to professionally trained editors, selecting and filtering information is increasingly a task that is performed by automated recommendation technologies that rely on (Big) data and artificial intelligence to provide users with information choices that conform to their profiles, interests and information needs. Whether these choices are (sufficiently) diverse or not, or lead to biased, partisan exposure or even filter bubbles are pressing questions of not only academic but also societal importance.

The objective of this chapter is to provide a concise overview of research on exposure diversity. This chapter will demonstrate that this research comes in many facets and with various faces and names. The chapter will also show that research on exposure diversity transcends disciplines, including communication science, psychology, media law, political science, and normative democratic theory. Insofar, another objective of this chapter is to raise awareness of the multi-disciplinarity of the subject and point out how empirical and normative inquiries can complement each other in a useful way.

As a general point of departure, this chapter understands diversity as a normative concept, a “concept with a mission” and considerable societal value. In other words, we regard exposure diversity not so much as a value and worthy study subject in itself, but as a concept that serves a democratic mission of realizing freedom of expression and contributing to a functioning democratic debate (see section 3). This is also the

conception of diversity that has informed (directly and even more so indirectly) media law and policy making. For this reason, we will pay particular attention to one critical aspect of exposure diversity, namely exposure to dissimilar views. Encountering ideas and perspectives that challenge citizens' prior attitudes is critical to achieving the public policy objectives of forming better informed and more mutually understanding citizenry.

We first position exposure diversity in its broader democratic and public policy context and later point to some of the main challenges for exposure diversity. We then identify the main lines of inquiry into exposure diversity so far and conclude with sketching the contours of a future research agenda.

2 Conceptual ambiguities

Before we proceed, it is important to realize that sketching a picture of the state of the art of exposure diversity is made difficult by the lack of an authoritative definition of the concept. To begin with the idea of diversity in media law and scholarship: there is considerable conceptual disagreement about the concrete meaning of the notions of diversity, but also of pluralism or plurality. Often, those notions are used interchangeably, creating “conceptual messiness” (McGonagle 2011). McGonagle suggests a pragmatic approach, such that pluralism refers to issues of media ownership and the choice between different providers of services, whereas diversity refers to the range of programs and services available, a distinction that is used more broadly in media law and policy scholarship (Valcke, Picard and Sükösd 2016: 1–3; Karppinen 2013: 4).

Outside media law and policy, research on exposure diversity comes in many forms, and under different headings. “Diversity of exposure” is a term coined by Philip Napoli (Napoli, 1997). In contrast to the more traditional measures of diversity, such as source diversity and content diversity, Napoli made an important contribution in drawing attention to the fact that it is this “exposure to diverse ideas, sources, and perspectives that facilitates the well-informed decision making that is central to the democratic notion of effective self-governance and the increased consumer satisfaction typically associated with economic perspectives on a diverse marketplace of ideas.” (Napoli 1999a: 4). More specifically, Napoli defined exposure diversity as “the diversity of content or sources consumed by audience members, which, of course, may be very different from the diversity of content or sources available.” (Napoli 1999a: 4). Others refer to “content as received” (McQuail 1993: 157), or “diversity of consumption” (Webster and Phalen 1994). Though by and large referring to the same concept, each notion implicates subtle differences. Additional perspectives focus on “diversity of choice” (Van der Wurff 2004) or “realistic accessibility” (Hargittai 2003; see also Cooper and Tang 2009: 406–7). The latter points to the fact that while many explorations into exposure diversity look into the consumption of media content that is

available, issues as to how and under what conditions the audience can actually find and access media content are another important facet of the issue.

Furthermore, related empirical work examines an important aspect of exposure diversity, namely exposure to dissimilar views, work that will be central in this chapter. Also here, scholars use diverse concepts, referring to cross-cutting (e.g., Mutz 2001) or counter-attitudinal exposure (e.g., Knobloch-Westerwick 2011). Despite using these somewhat different headings, this work examines whether, the extent to which, and the sources from which, citizens encounter views that challenge their prior party attachments, voting intentions, policy preferences, or attitudes toward various political issues (e.g., Garrett and Stroud 2014; Mutz and Martin 2001; Wojcieszak and Mutz 2009).

In turn, in the more technical disciplines, exposure diversity is often conceptualized in terms of serendipity or the distance between two items (Murakami et al. 2007; Kotkov, Wang and Veijalainen 2016; Kunaver and Pozrl 2017), and is typically less informed by more normative conceptions of diversity.

It is important to be aware of this diversity within the concept itself in order to avoid that researchers are encapsulated into their own conceptual and disciplinary filter bubbles. Also, the decision of which notion to use can in itself frame and position the research in a particular disciplinary or theoretical tradition.

3 The importance of exposure diversity for a democratic society

Models of democracy highlight the importance of pluralism as a form of dividing power and creating freedom for individuals to participate in the democratic process (Christians, Glasser, McQuail, Nordenstreng and White 2009). This freedom includes, among others, the freedom of speech as an important condition of genuine democracy (Baker 2007). Democracy, in turn, not only entails giving citizens and media the opportunity “to speak” and disseminate information, but also requires the ability for others to receive, listen to, and be able to engage with the opinions and content disseminated.

Indeed, liberal-pluralist conceptions of democracies posit that societies function best when citizens are up-to-date on political events, knowledgeable about the political process, able to engage with other views (even if they are not their own), and familiar with multiple perspectives on relevant topics (see Berelson 1952; Delli Carpini and Keeter 1996). As Meiklejohn (1948: 25) puts it: “[t]he voters, therefore, must be made as wise as possible. The welfare of the community requires that those who decide issues shall understand them... This in turn requires that so far as time allows, all facts and interests relevant to the problem shall be fully and fairly presented... Both facts and interests must be given in such a way that all the alternative lines of action can be wisely measured in relation to one another.” The role of the media in this

liberal-pluralist conception of democracy is often associated with the “market place of ideas” metaphor, and with organizing an “adversary process” (Schauer 1982: 14) in which different ideas and opinions compete so that in the end truth will prevail (Napoli 1999b).

Sociologists, philosophers, and political theorists have long pointed to the democratic benefits of encountering diverse perspectives. These benefits are said to primarily emerge from exposure to views and arguments that challenge individual prior beliefs (see Mutz 1995). For instance, scholars agree that exposure to oppositional perspectives is a “specific necessary criterion” (Thompson 2008: p. 513) and “a core requirement” of deliberative democracy (Mutz 2008: 535), and also that citizens should encounter and be open to “political *alternatives* in a genuine effort to clarify and refine public policy” (Berelson 1952: 323, emphasis added).

Only when people encounter – and ideally engage with – diverse ideas, can they make informed decisions that account for the predicaments of others and transcend their own personal biases. In short, exposure diversity in general and dissimilar exposure in particular are not only hoped to promote “representative thinking” (Arendt 1968: 241), “sound political judgment” (Page 1996: 2), and “enlightened understanding” (Dahl 1989: 105), and to transform citizens into a cohesive collective (Barber 1984), but are also “necessary conditions for human progress” more generally (Karppinen 2013: 45).

Traditionally, scholars have focused on immediate social circles (e.g., Mutz 2001), larger community, such as town hall meetings (e.g., Tocqueville 2000/1835), or citizen discussions and structured deliberations (Fishkin 1995; Wojcieszak 2011a) as the avenues for citizens to encounter diverse and dissimilar perspectives. Most people, however, receive information about news and current affairs from the media (Mutz 1994; Mutz and Martin 2001), and it is the media that are the key intermediary between political elites and citizens (Esser and Strömbäck 2014). As such, much theorizing and research on exposure diversity, dissimilar exposure, and their democratic contributions focuses on the media (Baker 2002; Habermas 2006; Jacobovic 2007 and 2015), asking questions about the role that the media play in exposing people to diverse media content and the effects of this exposure (e.g., Goldman and Mutz 2014; Helberger 2012; Napoli 1999a; Stroud 2011; Webster 2005 and 2014; Weeks, Ksiazek and Holbert 2016).

4 The practical importance of (research into) exposure diversity in policymaking

The intricate relationship between democracy, pluralism and freedom of speech is not only central to much democratic theory, but also features center stage in media policy. This link is aptly explained by the European Court of Human Rights, according to which:

“Freedom of expression constitutes one of the essential foundations of such a [democratic] society, one of the basic conditions for its progress and for the development of every man. [Freedom of expression] (...) Is applicable not only to ‘information’ or ‘ideas’ that are favorably received or regarded as inoffensive or as a matter of indifference, but also to those that offend, shock or disturb the State or any sector of the population. Such as the demands of pluralism, tolerance and broadmindedness without which there is no ‘democratic society’.” (ECHR, *Handyside*)¹

Despite its crucial importance, this relationship between exposure diversity and media policy is a complicated one (Helberger 2011). As illustrated by the quote above, media diversity policies are typically aimed at creating the conditions so that citizens can encounter various opinions from different sources (Council of Europe 1999 and 2007). Indeed, at least in Europe, states have an obligation to put in place the necessary policies to guarantee effective pluralism.² Those policies typically do so through safeguarding that in the media a diversity of ideas and opinions is available from a diversity of sources and speakers (often also referred to as pluralism, though the notions of pluralism and diversity are also often used interchangeably, McGonagle 2011). In Europe, the Council of Europe, an international body that has been pivotal in setting standards for media law and policies, has defined the notion of “media pluralism” for the purpose of policy making as “diversity of media supply, reflected, for example, in the existence of a plurality of independent and autonomous media (generally called structural pluralism) as well as a diversity of media types and contents available to the public. Therefore both the structural/quantitative and qualitative aspects are central to the notion of media pluralism. It should be stressed that pluralism is about diversity in the media that is made available to the public, which does not always coincide with what is actually consumed” (Council of Europe 1999, Explanatory Memorandum, para. 3).

It is important to note the restrained position of the Council of Europe, and of media law and policy makers more generally, when it comes to matters of actual exposure to diversity. This is partly due to the difficult position of media law and policymakers in regulating exposure diversity. Constitutional limits in the form of the rights to freedom of expression and the right to privacy limit what law and policy makers can do to tell the audience what it “ought to see” or how diverse a proper citizen’s media diet should be (Fenchel 1997; Valcke 2011). Similar concerns apply to media authorities who wish to measure diverse exposure: reading and listening in private and unobserved is not only an expression of citizens’ right to privacy, but also a fundamental condition for the exercise of freedom of expression (Irion and Helberger 2017; Ofcom 2015). It is worth mentioning that despite these concerns, the European Convention on Human Rights does leave regulators some leeway to regulate the media, which has been used to also deal with, at least indirectly, matters of exposure diversity, certainly in comparison to the US. Here, the

1 ECtHR 7 December 1976, *Handyside v. UK*.

2 ECtHR 7 June 2012, *Centro Europa 7 S.R.L. and Di Stefano v. Italy*

constitutional environment, and the strong position of the First Amendment dictate a far more non-interventionist stance, which is even less conducive to interfering with any matters of exposure diversity (Napoli 1997).

The constitutional difficulty of dealing in a meaningful way with exposure diversity persists, even though policy makers increasingly realize that matters of exposure diversity are at the heart of some of the more recent challenges to diversity policies. Examples are new forms of algorithmic filtering as well as the advent of new information intermediaries that have taken an increasingly critical role in channeling attention, and in so doing function as a new mediator between the media and citizens (Vike-Freiberga et.al. 2013), as we detail in section 5 and 6. Insofar, a number of regulatory authorities in Europe have begun paying more attention to exposure diversity, and exploring the possibilities, within the constitutional boundaries, to expand their monitoring activities to matters of exposure diversity (Ofcom 2012: 25; the Dutch Commissariaat voor de Media 2017). Doing so, however, requires a sound understanding of diversity as a value, and how the increasingly complex and fastchanging information ecology is affecting the way the value is being articulated and realised.

Exposure diversity is therefore also an excellent example of the importance of involving and combining social science research and normative research in the actual process of media policy making. This is especially so because the understanding and measuring of exposure diversity and its impact is, and continues to be, an important research challenge as well.

5 Challenges to exposure diversity

Bearing the importance of exposure diversity in a democratic society in mind, we will now briefly outline the various challenges to media diversity in general, and to individual exposure to dissimilar political perspectives in particular. We mostly focus on (non-mutually exclusive) challenges introduced by the dramatic changes in the current media environment.

5.1 Challenges related to the structure of media markets

The first challenge to exposure diversity is related to the structure of media markets, in particular the ever increasing content multiplicity. Traditional offline channels are now tailored to the attitudes, values, and identities of the audiences, the internet offers nearly unlimited content online, and information intermediaries, such as Facebook, Twitter and Google continue to amplify content diversity through integrating users' actively in the process of creating and sharing information. In this multiplicity

of sources and content, people must first choose between news about public affairs and information about celebrities, movie releases, or other entertainment content. Because politics is sometimes perceived as complex or boring, people may choose to avoid this topic. The high-choice increases attention to entertainment over public affairs, as people engage in what is termed *interest-based selectivity* (see Feldman, Wojcieszak, Stroud, and Bimber 2013). Estimates vary somewhat but provide a generally consistent picture. In the United States, nearly half of Americans are said to be news avoiders (Ksiazek et al. 2010), and the opportunity to choose between news or non-political content, such as sitcoms, dramas, or sports, leads most people to choose entertainment, with only 35% selecting news (Prior 2007). By limiting exposure to news and public affairs in the first place, interest-based selectivity essentially limits exposure to diverse political viewpoints in the media.

The preference for entertainment over political content may be lower in countries that have strong public service broadcasting in place (see Curran et al. 2009). Media systems offer opportunity structures (e.g., Esser et al. 2012; Skovsgaard et al. 2016) by determining the availability of, and access to, different traditional and new media, and influencing the information people see (Becker and Schoenbach 1989; Napoli 1999a). As such, citizens in public service systems have a greater chance to encounter political programming, albeit inadvertently, than citizens in the US market-driven media system. Research in fact shows that “the public service model of broadcasting gives greater attention to public affairs and international news, and thereby fosters greater knowledge in these areas, than the market model. The public service model makes television news more accessible on leading channels and fosters higher levels of television news consumption” (Curran et al. 2009: 22). The structure of national media markets, of course, cannot be seen separately from the regulatory climate in a respective country, as regulation is an important factor shaping national media markets and creating the conditions for (exposure) diversity (Freedman 2008; Valcke 2004). In sum, the sheer availability of media and content alternatives may decrease exposure to news and current affairs information – a prerequisite to exposure diversity in the first place – although differently in different media systems.

5.2 Challenges related to individual preferences and characteristic of the individual members of the audience

Another related challenge to exposure diversity comes from individual factors, and here in particular *individual political predispositions* that are increasingly important given the aforementioned multiplicity of sources and content in the current fragmented media environment. When people select public affairs news, many engage in *partisan selectivity*, namely prefer ring media sources and political content that support their partisanship, ideology, or prior attitudes (Iyengar and Hahn 2009; Knobloch-Westerwick and

Meng 2009; Stroud 2008, 2011). This preference is often explained with an individual desire for consistency (i.e., cognitive dissonance theory, Festinger 1957). In short, because people are motivated to avoid cognitive discomfort, they tend to seek out information in line with their established attitudes. Another explanation for individual preference for like-minded political content lies in perceived source credibility (Johnson and Kaye 2013; Metzger et al. 2015; Stroud and Lee 2013). In general, people grant more credibility to sources that share their attitudes than to discrepant sources (Metzger and Flanagin 2013; Metzger et al. 2015). As such, people would choose like-minded outlets and messages not in order to protect their beliefs or avoid dissonance, but simply because they see such sources and content as more credible (Metzger et al. 2015).

Again, the extent to which individual political predispositions limit exposure diversity likely depends on national media systems and policies. In the US, observational data find that citizens are attracted to news sources consistent with their party preferences (e.g., Republicans turning to Fox News at greater rates than Democrats; e.g., Stroud 2011). Experimental designs that examine the selection of specific content focus on individual policy preferences, finding, for instance, that abortion opponents or climate change sceptics prefer media messages consistent with their attitudes, and especially when these attitudes are strong and personally important (e.g., Knobloch-Westerwick 2012; Knobloch-Westerwick and Meng 2009; Peralta et al. 2016).³

Because media systems offer more or less crystalized alternatives, depending on media parallelism or the alignment of parties with media sources (Van Kempen 2007), partisan selectivity is lower in media systems where media outlets are not closely aligned with major political parties (Mutz and Goldman 2012). As such, the challenges posed by individual political predispositions to media diversity could be lower in most European systems.

5.3 Technological challenges

Technological changes introduce new dynamics to the way people encounter information, and – consequently – to the chances they have to encounter diverse and dissimilar content. Where the traditional media had a leading role in mediating between citizens and the political world, and determining the conditions of exposure to diverse content, today the traditional outlets are joined by new players – social media platforms, app stores, search engines, and new technologies, such as data-driven algorithmic recommendations, intelligent autonomous agents, such as bots

³ It is important to note that attraction to pro-attitudinal messages is not consistently correlated with an aversion to counter-attitudinal messages (e.g., Garrett, Carnahan, and Lynch 2013), and many factors promote interest in both types of content (Chaffee, Saphir, Graf, et al. 2001).

and personal assistants, but also algorithmic filtering and decision-making of which content to display, and which not. Often, these are players that are not bound by existing normative, ethical and legal expectations of complying with the demands of media diversity (e.g. social media platforms, Helberger, Kleinen-Von Königslöw and Van Der Noll, 2015). Their understanding of the relevance of diversity, or what diversity and diverse exposure actually means, may differ fundamentally from the understanding of traditional media companies (see Zuiderveen Borgesius, et al. 2016 for a thorough review of the effects of personalization due to algorithms).

And yet, algorithmic filtering and data-driven recommendations can have an important role in steering users' exposure to information, and thereby also affecting the diversity of such exposure, and whether or not users are exposed to dissimilar views. A growing body of research tests the effects of algorithmic filtering on the diversity of media content that users are exposed to and finds mixed evidence. One study, for example, examined the effects of user-driven versus system-driven customizable recommendation technology, and found that exposure to system-driven recommendation technology can result in political selective exposure, especially when combined with ideology-based customizability (Dylko 2015). Similarly, Beam found evidence of selective exposure as a result of algorithmic recommendations but interestingly the same study also found that explicit user-driven customization can result in higher exposure to counter-attitudinal views (Beam 2013; see also Beam and Kosicki 2014, finding that personalised news can result in users viewing more sources and news categories). A positive correlation between algorithmic recommendations and exposure diversity was found in a study on Facebook's algorithmically ranked news feed that found that use of social media platforms can result in exposure to more diverse news (Bakshy et al. 2015). Another study found both an increase and a decrease in exposure to ideological-conforming content (Flaxman et al. 2016).

6 Research into exposure diversity – different lines of inquiry

Research on exposure diversity can be divided into different lines of inquiry. Not claiming that this is an exhaustive list, this chapter sketches at least 5 partly overlapping areas⁴: research on whether or not people indeed consume diverse content; research on the effects of diverse exposure; research on conditions of diverse exposure; research on exposure diversity and technological innovation; and media law and policy research on exposure diversity. We add some nuance on these issues in section 7.

⁴ Engaging into a complete literature review would far exceed the scope of this chapter.

6.1 Do people have diverse media diets and are they exposed to dissimilar views?

A question that is central to research on exposure diversity is whether citizens' media diets are diverse and whether people encounter dissimilar views in offline and online media. Generally, this line of research shows that the availability of more diverse media content does not necessarily translate into more diverse exposure, and that this holds in both offline and online markets (see e.g. Napoli 1999a; Ferguson and Perse 1993; Webster and Phalen 1994; Prior 2004; Stark 2009). In fact, more media diversity, conceptualized as the sheer number of content options and/or outlets available to citizens, can lead to a decrease in the diversity of the content consumed. Specifically, evidence suggests that exposure to dissimilar political views decreases with the increase of the number of media sources available to an individual. That is, “[a]s the number of potential news sources multiplies, consumers must choose among them, and that exercise of choice may lead to less diversity of political exposure” (Mutz and Martin 2001: 111).

The changes in the current media environment have reinvigorated this area of inquiry (see Stroud 2008). Multiplicity of sources gives citizens unprecedented agency over content production, consumption and dissemination. Also, the algorithms have the power to shape the range of information that people encounter online. These changes are theorized and studied by scholars interested in selective exposure to partisan media outlets and like-minded political content (e.g., Garrett and Stroud 2014; Stroud 2010) as well as those studying so-called “filter-bubbles” (Pariser 2011) and echo-chambers (Garret 2009) in online social networks. Scholars find that the active involvement of citizens in personalizing media diets and the algorithmic filters and data-driven media selection may limit exposure diversity, in the forms of increased selective exposure to like-minded content and homogenous online networks (see section 4). This, in turn, can foment polarization (see Iyengar et al. 2012; Yang et al. 2016), reinforce individual priors (e.g., Knobloch-Westerwick and Meng 2011), and move partisan sub-groups further to their side and farther away from one another (Bennett and Iyengar 2008; Sunstein 2001). As a result, this line of inquiry is crucial to not only communication research but also media law and policy scholars, as well as policymakers.

6.2 What are the effects of diverse exposure?

In a similar vein, research that tests the effects of diverse exposure, and whether the theoretical expectations regarding the democratic benefits of diverse exposure can be confirmed or not, is particularly relevant, also from a democratic theory point of view. Researchers confirmed many theoretical expectations for exposure diversity. For instance, diversity in the media can create opportunities for users to encounter

different opinions, self-reflect on their own viewpoints (Kwon, Moon, and Stefanone 2015: 1417–1435) or enhance social and cultural inclusion (Huckfeldt, Johnson, and Sprague 2002: 1–21), for the case of social networks. Also, some work shows that encountering dissimilar views, be it from interpersonal contacts, online groups, or news media enhances tolerance (Mutz 2002), increases one's familiarity with views oppositional to one's own (Price, Cappella, and Nir 2001), has some positive effects on political knowledge (see Scheufele et al. 2004), and also leads people to more accurately perceive public opinion (Wojcieszak 2011b; Wojcieszak and Rojas 2011).

However, it is also important to realize that media pluralism as a democratic ideal is not uncontested. Diversity can compete with other, not less important public or economic values, such as the need for reducing complexities (Neuberger and Lobgis 2010), personal autonomy of the audience, the provision of information of personal importance to the audience, and the freedom not to encounter certain information (Fenchel 2007). Also, research shows that diversity policies and exposure to dissimilar perspectives can at times backfire and produce the opposite of what diversity was hoped to achieve. For instance, encountering counter-attitudinal perspectives in news media depresses political engagement (Dilliplane 2011; Matthes 2012; Nir and Druckman 2008) and can lead to attitude extremity, especially among strongly opinionated citizens who are not open to dissimilar views and do not process them even-handedly (Lodge and Taber 2000; Redlawsk 2002; Taber and Lodge 2006). *Rather*, people are generally driven by directional goals when processing information, readily accepting attitude – consonant information, discrediting, ignoring, or counter-arguing attitude – disconfirming content (see Taber and Lodge, 2016). Ultimately, exposure to dissimilar or even balanced content can polarize attitudes (Lord, Ross, and Lepper 1979; Meffert et al. 2006; Taber and Lodge 2006; Nyhan and Reifler 2011; Wojcieszak 2011a; Wojcieszak and Price 2010).

6.3 What are the conditions that impact diverse exposure?

Other research seeks to understand the conditions that influence if, and how people encounter and engage with diverse content (e.g. Hargittai 2003 with focus on media literacy, or more generally the individual or contextual factors that can predict audience exposure to diverse content, as e.g. in Cooper and Tang 2009). Other work differentiates further according to audience characteristics, showing that exposure to a greater variety of news media results in more diverse consumption for less educated respondents, while the effect on better educated respondents is smaller (Van der Wurff 2011).

Another line of inquiry tries to develop a better understanding of factors that contribute to diverse exposure or lack thereof. Much research about predictors of media and content choice focuses on individual-level factors and predispositions, such as political knowledge, interest in news, and strength of political leanings or

attitudes (e.g. Feldman et al. 2013; Garrett 2009a; Knobloch-Westerwick and Meng 2009; Ksiazek, Malthouse, and Webster, 2010; Lee et al. 2016; Prior 2007; Stroud 2011). Scholars also recognize that social or technological factors play an important role. For instance, online endorsements by Facebook friends not only influence users' decisions regarding which content to consume, but can also override partisan selectivity (Anspach 2017; Messing and Westwood 2014). These social factors in online networks are closely intertwined with technological factors, such that the Facebook algorithm prioritizes information shared by close and frequent connections. In sum, individual choice, as well as social network and algorithmic ranking influence exposure diversity (Bakshy, Messing, and Adamic 2015).

Some additional work addresses the systemic-level factors (e.g., the media system, the availability of public service broadcasting, media parallelism, etc.) that may influence the extent to which citizens are exposed to diverse views and dissimilar political perspectives. We mention this work, in section 7.

6.4 Exposure diversity & technological innovation

Research on exposure diversity (in its various dimensions) has received a new surge with the increasing impact of new information intermediaries on media markets, and accompanying concerns about filter bubbles and possible negative implications for overall diversity in the media (Pariser 2011; Sunstein 2001). On the one hand, in its 2017 News Report, the Reuters Institute found that users of, *inter alia*, social media were significantly more likely to see sources they would not normally use, likely including those that offer dissimilar viewpoints. Similarly, some research finds that the internet in general and social media in particular facilitate incidental encounters with news and political information (Brundidge 2010; Kim et al. 2013; Valeriani and Vaccari 2015; Tewksbury, Weaver, and Maddex 2001) and also diverse and dissimilar perspectives (e.g., Wojcieszak and Mutz 2009; Lee and Kim 2016; Lee et al. 2014; see also Messing and Westwood 2014; Diehl, Weeks, and Zúñiga 2016).

On the other hand, other research points to rather negative effects of the online environment on exposure diversity. Some scholars find that Twitter users are unlikely to be exposed to cross-ideological content and that the networks, or clusters, they form are politically homogeneous (Himmelboim, McCreery, and Smith 2013), or that social network users in fact create like-minded echo chambers that limit exposure to attitude-challenging views (Quattrociocchi, Scala and Sunstein 2016). Yet other research, using individual and aggregate data, finds that ideological segregation of online news consumption is low, and – although it is higher than the segregation of news consumed from traditional offline outlets – it is substantially lower than the ideological segregation of face-to-face networks (Gentzkow and Shapiro 2011). Yet other work using browsing histories, suggests that social networks and search engines are associated with increased exposure to political content that challenges one's political views. Still,

most people visit mainstream news outlets, ultimately tempering the effects of the technological affordances on exposure diversity (Flaxman, Goel, and Rao 2016).

In sum, this line of research offers somewhat contradictory findings on how technological innovations influence exposure diversity. This mixed evidence is largely due to the fact that research conclusions are highly dependent on the specific scholarly focus (e.g., news websites, social networks, etc.), and on researchers' methodological and conceptual decisions, but also the data themselves (e.g., self-reports, web-logs, content analysis, etc.).

Next to communication science research, an interesting line of technology research is experimenting with ways to translate exposure diversity into technological design (Munson, Zhou, and Resnick 2009; Lathia et al. 2010; Ozturk and Han, 2014; Vargas and Castells 2011; Helberger, Karppinen, and d'Acunto 2016). In other words, research can study not only the effects of technological innovation on the (dynamics of) exposure diversity, but also the means of using technological innovation to promote exposure to diverse content.

6.5 Media law and policy research

The empirical finding that diversity of supply does not automatically translate into diversity of exposure is also an important finding for media law and policy research. More generally, research on the conditions, dynamics and effects of exposure diversity is relevant and useful for media law and policy, which can pave the way to designing more evidence-based policy responses and ways of creating favorable conditions for not only diversity of supply, but also diversity of exposure. This becomes evident in the light of the aforementioned rise of platforms and algorithmic filtering. These technological developments have further highlighted, for example, the need to better measure the risks to pluralism and diversity in general, and exposure diversity in particular (Valcke et al. 2009; Craufurd-Smith and Tambini 2012). Others concentrate on the implications for freedom of expression or democracy (Van Hoboken 2012; Sunstein 2001; Pariser 2011), the regulatory frameworks (Foster 2010; Schulz, Held and Laudien 2015), the role of public service media (Goodman 2004; Burri 2015; Helberger 2015), or regulatory responses to new challenge, such as the arrival of social media platforms and their implications for diversity (Foster 2012; Van Dijk and Poell 2017; Helberger, Poell, and Pierson 2017).

7 Agenda for future work

Research on broadly conceived exposure diversity will continue to be important, due to the dynamic nature of media markets, technological developments, changes in

user behavior, and also the role that media play in the process of democratic meaning making. We are only beginning to understand these processes, and so below we outline some lines of inquiry which – in our view – will be theoretically, methodologically, and practically, increasingly important.

Most generally, we propose that academic research needs to develop a comprehensive model that explains the antecedents and the consequences of exposure diversity and dissimilar exposure. What are the conditions in which media diversity and dissimilar exposure backfire? For whom, when, and where do they bring democratic benefits? Addressing these questions is imperative before we fuel resources to confront media users with the “different.” Doing so requires normative-empirical approaches.

First, scholars across disciplines should examine the specific *conditions* under which exposure to dissimilar political views in the media occurs; ideally doing so on a comparative scale, in order to systematically show how the macro-system in which citizens are embedded matters to exposure diversity. What factors encourage people to have the media diets they do, to limit or expand the repertoire of sources through which they gather information, to see dissimilar content, on which issues, and through which media? Some theoretically relevant factors include (1) not only the oft-studied and aforementioned individual characteristics and political predispositions, but also (2) one’s social context, such as the composition of interpersonal and online networks (e.g., the extent to which one’s social ties share a person’s political views; after all one’s social context facilitates exposure to information), (3) media and political systems (e.g., whether there is a strong alignment between media sources and political parties; whether a strong public service broadcasting system is in place, the extent to which the media are independent of the government), as well as (4) broader economic, social and technological factors. This line of research would shed light on what kinds of people, in what types of social contexts and in which media and political systems have which kinds of media diets.

This leads us to another, so far under-researched question, namely research into *who media users actually are and what their preferences and ideas of diversity are*. For example, research in the Netherlands shows that a majority of Dutch users actually value diversity and are concerned about the potential effects of personalized recommenders in being broadly and diversely informed (Balazs et al. 2017), an insight that adds an important qualification to the discussion about filter-bubbles and demonstrates that some groups in society are unlikely to end up in filter-bubbles. With the trend towards more interactive, personalized and data-driven forms of distribution of media content also comes the realization that the audience, too, is very diverse and that this diversity in turn may affect the effects of diversity. For example, researchers find that polarization effects are especially pronounced among those citizens who have strong prior views, as those individuals have the greatest motivation to counter-argue against any attitude-disconfirming information and often possess the greatest knowledge with which to do so (for a review see Leeper and Slothuus 2014).

Studying these issues, using both qualitative and quantitative methods, will be an important line of research.

Third, although theorists and practitioners typically focus on whether citizens *see* diverse and dissimilar views in the media, it is as crucial to examine the specific *effects* exerted by media diversity and dissimilar exposure on democratically relevant attitudes, cognitions, and behaviors. So far, much research operates under the (theoretical) premise that citizens behave like citizens “ought to behave,” and that exposure to diverse content is conducive to the democratic goals that societies consider important. But what if these efforts do more harm than good? As was mentioned previously, psychological work on motivated reasoning shows that many *citizens are not open to dissimilar views and do not process them even-handedly* (Lodge and Taber 2000; Redlawsk 2002; Taber and Lodge 2006). In which conditions, for whom and where, does dissimilar exposure backfire, leading to polarization or hostility, versus bringing about the various theoretically claimed benefits, such as increased tolerance or understanding? What are the immediate and cumulative overtime effects of exposure diversity, and what are the individual, social, and system-level factors that enhance or minimize polarization resulting from dissimilar exposure? It is essential to study potential (*side*)effects of diverse exposure to potentially adjust democratic theory and media law and policy.

Fourth, given the evidence from social-psychological work, future research should attend to the question of *how to minimize the potential harms and maximize the benefits of media diversity and dissimilar exposure*. This step speaks to the perennial scholarly and practical challenge to find ways to encourage people – especially the strongly opinionated citizens – to be more open to diverse dissimilar views. Recent research suggests that indications that certain media content is popular (i.e., endorsements: “Likes” or “Most Read”) or that being open to difference is socially valued (e.g., “We respect different views”) may encourage a person to consider dissimilar views (see www.engagingnewsproject.org; Messing and Westwood 2012). Other research points to the possible role of technology and technological settings in maximizing the benefits of dissimilar exposure (Ansbach 2017; Munson and Resnick 2009; Helberger, Karppinen, and d’Actuno 2016). Future studies should attend to other potential cues, primes, or settings in media that could promote more even-handed processing of dissimilar information and increase the chances that exposure diversity brings about the promised benefits.

Furthermore, another fruitful area of research includes systematically distinguishing between *dissimilarity* versus *diversity* in news and political content more broadly. This avenue for future investigation relates to the lack of conceptual clarity as to what actually is “media diversity” or how to clearly define “diverse” or “dissimilar” exposure. Do dissimilar views have different effects when shown with like-minded views in the same *article* (i.e., internal diversity on content level) *versus* when shown in the same *news outlet* (i.e., internal diversity on outlet level) *versus* when a person accesses both dissimilar and like-minded *news sources* (i.e., external diversity

on a media diet level)? For instance, a news article featuring solely dissimilar views may make people feel isolated or angry, motivating them to stand up to defend their views (especially if these views are strong), whereas an article with some like-minded and some dissimilar views may reduce cognitive dissonance by “comforting” a person with information that supports her worldview (see Lewandowsky et al. 2012). Also, the *balance* of like-minded and dissimilar information matters: once dissimilar information reaches a tipping point, people can no longer process it in biased ways and should form more balanced positions (Redlawsk, et al. 2010). These are important nuances, and we need internally and externally valid evidence on which combination of content and media diets produces backfire effects. Such evidence is needed for scholars and practitioners working on media diversity policies and social campaigns.

There is yet another crucial line of inquiry, one that underpins all of these other directions for future research, namely identifying effective ways of *theorizing and measuring diverse exposure*. Currently we lack a joint understanding of the metrics and measures – what exactly is diverse exposure, how can it be measured and when is “diverse” diverse enough from the perspective of, for example, democratic theory? Is it actually desirable to define such metrics (Baker 2007; Karppinen 2013)? These are difficult conceptual questions that need to be solved before scholars and policy-makers are able to have a meaningful discussion about, say, whether social networks do or do not have a negative or positive impact on exposure diversity. But also, how to define exposure diversity in the new media environment and how to pinpoint the effects of new technologies, social networks, algorithmic solutions? Many of these algorithms are proprietary in nature, and protected by intellectual and contractual rights, as well as trade secrecy protection (Pasquale 2015). Observability is further rendered difficult by the personalized nature of many instances of data-driven communication, which means that new research approaches can no longer focus on measuring media outlets, but must be designed to measure individual exposure to personalized messages. In addition to presenting methodological challenges, measuring exposure diversity in the digital, data-driven environment also poses new *opportunities*. Researchers can apply new (data-driven) methods to ask new and far more detailed questions, for example about the extent of exposure diversity in social networks or personalized search. But even if the answer to the implications of Big Data is Big Data research, and even if it is possible to build systems that can observe individual exposure, making sense of that observational data poses entirely new challenges to the developing area of computational empirical research. Research like this also poses entirely new ethical and legal challenges (Balazs et al. 2017), and thereby is by nature multi- and inter-disciplinary.

These lines of inquiry contribute to and extend media law and policy scholarship. The digital environment has created a clear need to understand the audience dimension of diversity, and of the realization of diversity and the normative goals that come with it. Technological innovation, new market players and changing user behavior challenge established tools and instruments to safeguard diversity

and create the conditions for diverse exposure. The growing need to better conceptualize exposure diversity is also crucial for the purpose of law and policy research. What does exposure diversity mean in the context of the different values or policy objectives that diversity serves (such as deliberation, tolerance, inclusion, etc.)? And does (exposure) diversity mean the same thing for all citizens, or is it time to differentiate diversity policies to the individual and social contexts of an increasingly individualized and heterogeneous audience? *Are new regulatory safeguards needed?* Finally, law and policy research will need to develop benchmarks that can help academics and policy makers alike to identify risks and opportunities for exposure diversity, as well as identifying the constitutional and legal limits within which research into exposure diversity (whether by academics, companies or regulators) can move.

In this context, we have to stress the importance of *media law and policy research that is informed by theoretical and empirical insights* into what exposure diversity actually is, the goals it serves and can reasonably be expected to realize, but also the dynamics, challenges and opportunities for exposure diversity from technological and market innovations. For legal and policy research this can create a challenge in itself of how to integrate empirical findings in a normatively meaningful and scientifically correct way (Baker 2007; Braman 2003).

Lastly, given the polarized political climate and the theoretical claims about the democratic benefits that media diversity and exposure to dissimilar perspectives can have, *the normative aspects of exposure diversity require greater academic attention*. Some scholars argue that targeting and profiling should be used to expose citizens to diverse content (Garret and Resnick 2011; Helberger 2011; Van den Bulck and Moe 2017), and influential thinkers recommend that the state take a proactive role in “nudging” users to adopt diverse news diets (Burri 2015; Goodman 2004; Thaler and Sunstein 2009). Before, such proposals were met with criticism and constitutional concerns, as paternalistic and in conflict with individual freedoms (Valcke 2004; Napoli 1997). Due to growing polarization, information overload and attention scarcity, these proposals are now seen as viable to achieve media diversity, media literacy or social inclusion. Also, the media, policymakers, and regulatory authorities invest time, effort, and public money to offer diverse programming and encourage citizens to attend to dissimilar content. For instance, public service media are urged to combine the increasing knowledge about individual users with the power of algorithms to “guide” users to dissimilar news (BBC Trust 2013; Goodman and Chen 2010).

8 Conclusion

In this chapter, we aimed to give an overview of the increasingly rich body of research into exposure diversity and dissimilar exposure. We outlined the diverse,

and sometimes overlapping, areas of inquiry that fall under the conceptual umbrella of media diversity and dissimilar exposure, the challenges to exposure diversity, as well as the fruitful – and needed – opportunities for research that cuts across social sciences, psychology, economics, law and ethics and data science.

Research into exposure diversity, in all its facets and dimensions, will only grow in the future, due to its democratic importance, new technological challenges, changing conditions in media markets, as well as the need to still better understand individual preferences and characteristics of the audience. Also, much of the existing research is still US based, whereas the conditions of, and dynamics behind, exposure diversity are likely to differ as a result of cultural, socio-economic and regulatory differences between the US and (countries in) Europe or elsewhere in the world.

We have also strived to sketch the broader normative dimensions related to exposure diversity, and placed this research into the context of the role of diversity in a democratic society and public policy making. Insofar, it is important to stress that understanding the processes and dynamics behind exposure diversity is not only a worthwhile area of inquiry for empirical research. Also for democratic theory and media law and policy, a better understanding of the conditions under which diverse exposure does or does not contribute to the realization of the democratic project is critical, both as a reality check and as the basis for fine-tuning and adjusting existing theories and policies. We also used this chapter to highlight the potential for fruitful combinations of empirical and normative research approaches, and also the practical importance of research on exposure diversity, in the sense that it can lead to better law and policy making.

Finally, we highlighted the role of technological innovation in exposing users to diverse or dissimilar content. Many questions that are relevant to this area may not have been possible to study with conventional methods, such as surveys or interviews. Methodological innovations, in the form of online behavioral tracking or new forms of observational computational research, can also up the avenue for new exciting questions: how does algorithmic filtering affect individual information diets, what is the extent to which users receive personalized messages, and what is the diversity that users encounter in the online environment? Given the theoretical, practical, and societal relevance of these and related questions, we are confident that the research on exposure diversity will continue to gain prominence across disciplines.

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Robyn Caplan

29 Algorithmic Filtering

Abstract: Large information companies, like Google, Facebook, Baidu, and Twitter are the intermediaries of information flows the world over. Due to the abundance of information being produced online, often over these types of platforms, algorithms (i.e. computational processes used to categorize, filter, and classify information) are being relied upon to make some content more visible – algorithmic filters are often used to highlight some information over other information, to return results that may be personal, useful, or more important. Filters can also be used to make information less visible, used in conjunction with user flagging and content moderation practices, to remove some information that’s deemed undesirable by companies, government, or other users. Algorithmic filtering, however, is quite difficult to study – often algorithms are proprietary, are changed frequently, and can be altered by data inputted by users. This chapter explores techniques currently being used to scholars and policy-makers to study algorithmic filtering, as well as the current debates and discussions about its potential harms on the democratic process, and on the accountability of corporations and governments using these methods.

Keywords: algorithms, algorithmic filtering, platforms, algorithmic accountability, information policy

As large information intermediaries, such as Google, Facebook, Baidu, and Twitter, take on a larger role in the production, distribution, and circulation of information, algorithms that filter and categorize this content have become an important area of inquiry for media researchers. Understanding the processes by which algorithms and data make some information more (or less) visible over information systems has become central for understanding the circulation of news content, its effects on the new media industry, and on shaping political discourse.

Algorithms and data underlie the search engines, social media networks, recommendation engines, and aggregators that influence media consumption within online information ecosystems. Platforms, like Facebook and Google, are increasingly becoming major sites of news media consumption for individuals in the United States and abroad (Gottfried & Shearer 2016). Though cable and broadcast television still play a role in the consumption of news media in 2017, age-based trends, as well as investments into video by platforms like Facebook, indicate that the proportion of the population consuming news media through platforms is likely to increase over the next decades (Mitchell, Gottfried & Matsa 2015).

Because of the use of algorithms to deliver and personalize content to mass audiences, a number of scholars are seeking to understand how algorithmic processes, such as categorization, prioritization, and filtering, are affecting information flows

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online (Diakopoulos 2014; Sandvig et al. 2014; Napoli 2014). These scholars are not only seeking to understand the mechanisms behind algorithmic filtering – or how different types of algorithms work – but they are also working to highlight *why* algorithmic filters have come to prioritize or de-prioritize certain types of content. Researchers are increasingly becoming concerned that filters used to rank content (as well as remove content) are leading to negative social impacts, such as filter bubbles and echo chambers (Pariser 2011). Other scholars have expressed concerns that algorithms and filters are easily manipulated for financial and ideological aims (Marwick & Lewis 2017), and that automated and hybrid systems of content moderation give large information intermediaries like Facebook and Google significant power in determining what content should or should not be allowed online (Klonick 2017).

This chapter will examine the use of algorithmic filtering and recommendation systems that influence media consumption. It will first define algorithms as well as algorithmic filtering within both computational and sociocultural terms, drawing from scholarship that has emerged within fields as diverse as computer science, information science, sociology, media studies, and anthropology. It will highlight several concerns that have been raised about the increasing role algorithmic filters are having in structuring information and influencing how information is produced both by individuals and news media, as well as look to the methods that scholars, educators, and policymakers are using to understand and regulate how algorithmic filters are deployed, particularly in the media industry.

1 Algorithms and algorithmic filters

Algorithms are playing an increasingly central role in delivering information to individuals and have become ubiquitous, used across almost every sector and industry. They are used in criminal justice to do things like “hotspotting” or predicting where crimes are likely to occur (Brayne, Rosenblat & boyd 2015), and by courts to determine sentencing for convicted offenders appearing before a judge or jury (Christin, Rosenblat & boyd 2015). They are used in schools to personalize educational materials to students, and to determine which students require more attention (Singer 2016). And they are used by financial institutions to determine credit scores, based on evolving sets of criteria and data, kept hidden from public view (Pasquale & Citron 2014). They are also used to calculate what is relevant to individuals on a day-to-day basis as they search for information on search engines like Google, or as they communicate with friends and family over social media networks like Facebook and Twitter, where the algorithms deliver personalized content or calculate what’s “trending” across the site. Since it is virtually impossible to address every use of algorithms, this chapter will address these last uses of algorithms, by search

engines and social media networks, as well as other recommendation systems, that use algorithmic filtering and personalization to highlight and prioritize information to individuals around the world.

To understand how algorithmic filtering is impacting the sociocultural world, it is necessary to first define *algorithm*, which is not an easy task. Though the word has been around since the thirteenth century (Knuth 1973), it still lacks any stable sort of definition across domains. The most oft-cited definition of algorithms comes from the computer scientist Donald Knuth and his work *The Art of Computer Programming* (1973). In this text, Knuth defined algorithms as “a finite set of rules which gives a sequence of operations for solving a specific type of problem” (27). Many scholars and computer scientists, including Knuth himself, have compared algorithms to *recipes* that take prescribed inputs (data) and transform them into outputs (data), through a well-defined and basic set of instructions (Venkatasubramanian 2015). However, Knuth was quick to clear up that, though they are similar, algorithms and recipes differ in one key way: recipes offer more flexibility than an algorithm, suggesting different ingredients (for instance, a *dash* of salt) and measurements and guidance for how these should be combined. In contrast, with an algorithm, there is nothing left to interpretation. Processes laid out by an algorithm must be finite, and precisely and unambiguously defined (in computer code).

For machine learning algorithms, which underlie most personalization and recommendation systems, there is a different sort of recipe applied. Instead of defining in concrete terms the inputs to be processed into outputs, machine learning algorithms instead uses the inputs to inform the creation of a recipe that will continue to iterate as more inputs are entered into the system, and more outputs are produced (Venkatasubramanian, 2015). Instead of a static recipe, machine learning algorithms are a set of meta instructions that enable programs to learn from data being entered into the system, and adapt to filter, categorize, and analyze systems in new ways. They present unique problems for understanding algorithmic filtering, because they require knowledge not only of the algorithm, but of the vast amounts of data that has been used to *train* the algorithm, that have worked, and continually work, to make the algorithm behave in new ways.

1.1 What is algorithmic filtering?

We speak about *algorithmic filtering* in the context of the inputs and outputs that are produced by the algorithm. As they’re used in search engines and over social media, algorithms are designed to calculate what is *relevant* to individuals, filtering out any excess noise and information to return results that may be useful or important. This “relevance” is calculated according to different goals and aims. For most major search engines and social media, algorithmic systems personalize content for

individuals based on their interests (i.e. what they've clicked on in the past), their geographic location, as well as what their friends and family have clicked on or posted in the past (Oremus 2016). Social media networks and search engines also use algorithmic filtering to highlight content that is trending throughout the network. Through "Trending Topics," Facebook aggregates all of the news stories being shared across the site, and features this information prominently within a box on the upper-right hand corner of the News Feed (Caplan & boyd 2018). However, algorithmic filtering is also used to de-prioritize or hide certain types of content that the network deems objectionable. This type of filtering is often referred to as "content moderation" and involves hybrid processes that includes flagging of content by users, automated processes, as well as thousands of human workers whose job it is to review content according to a company's community standards and guidelines (Klonick 2017).

There are many different types of algorithmic filtering processes. Nick Diakopoulos (2014, 2016) has separated out the work of "algorithmic filtering" from other algorithmic processes, such as categorization of data, and prioritization of information. In truth, these processes work in tandem with one another. Without being able to classify content, filters would not know what to prioritize or de-prioritize over a network. In this sense, algorithmic filtering can be defined as the inclusion or exclusion of information based on criteria determined by the algorithm designers (Diakopoulos 2014 8). It is the process of making visible, less visible, or invisible, certain types of content to an end-user, based on a given and often evolving criteria. This form of content-based algorithmic filtering, referred to as *personalization*, uses user data to build a profile which is used to customize information (Asanov 2011). This profile, however, is not static, but is instead constantly fed into by user activity and interaction with the content. This is done in conjunction with "recommendation" algorithms (or a *recommender system*) that often aggregate data from a user, with data from friends and family (often referred to as "collaborative filtering"), to suggest content to users based on their social relationships or shared interests (Bozdag 2013).

Filtering is not only used to prioritize content, but also to de-prioritize and remove content that is illegal or viewed as objectionable. Some of this filtering does involve algorithms and automated processes, such as matching photos of children against known databases tracking child exploitation; however, most of it is done through a mix of user tagging and human content moderation teams (often employed by third-party contractors for major platforms) (Klonick 2017). Other examples of automating the de-prioritization of certain types of content has been seen in partnerships between Silicon Valley and the U.S. government in counter-terrorism efforts (Solon 2017). Other countries, like China, have used algorithmic filtering to cut off access to large swaths of the internet, blocking websites through Domain Name Service (DNS) servers (Wright 2012).

Algorithmic filtering is often presented as a solution to the problem of "information overload" within the network society (Edmunds & Morris 2000: 18; Silver 2012). As more data is produced, collected, digitized, and stored online in the phenomenon

colloquially known as *big data*, mechanisms to filter or sort through this data have also increased (Mayer-Schönenberger & Cukier 2013). The term “information overload” refers to the notion of “receiving too much information” and is tied to work in cognitive psychology and behavioral economics that argue that human beings have limited cognitive capacity for information processing, and cognitive systems can be overwhelmed by too much information and too many choices (Eppler & Mengis 2004: 326; Bozdag 2013: 211). Though it has been defined differently in business management, marketing, and information science, it is commonly thought that information overload can lead to deleterious effects, such as stress or anxiety, or diminished decision quality, and is often tied to concerns about “bounded rationality” within a political and economic environment that emphasizes personal responsibility in consumer decision-making. However, the concept has resonance for many communication eras in which an increase of the information produced, distributed, and stored leads to new ways of “generating, organizing, scoring, analysing, and interpreting” the knowledge produced (Kitchin 2014: xvi).

In the context of media systems such as search, social media, recommendation engines, and aggregators, algorithmic filtering is thus viewed as a way of managing the vast amount of information currently available. However, in practice, it has much a much larger impact on the sociocultural environment. Through filtering, information systems have played a large role in determining what is relevant both to individuals, as well as to entire communities. Because filtering is playing such an outsized role in content delivery, it is also having a large impact on the type of information that is now produced. Studies have shown that private companies, like the news media industry and advertisers, have used their knowledge of how algorithms filter to tailor content in ways that increases the likelihood they will be clicked on and thus prioritized (Caplan & boyd 2018). How algorithms filter content, according to user preferences, may also be contributing to political polarization and echo chambers, through providing individuals with information specifically tailored to their interests and political viewpoints (Pariser 2011).

Algorithmic filtering is thus not only computational, but cultural. It is for this reason that many scholars are looking to understand the cultural dimensions of algorithms and algorithmic filtering, beyond the computational definitions offered by Knuth and others. Using a cultural lens, algorithmic filtering can also have many meanings. It can refer to the rhetorical and discursive role that the word “algorithm” has had in making social processes appear more objective or unbiased (Seaver 2017). In this sense, the discourse of algorithms have been used to veil human biases and subjectivities that become built into technical processes through the design of an algorithmic model within a company, the deployment into an information environment, as well as through interaction with an algorithm by users existing in a broader sociocultural environment. Companies have used the language of algorithms and automation to downplay the role that human beings play within sociotechnical systems. An example of this was seen in the controversy surrounding Facebook’s

use of journalists in the “Trending Topics” module, which they had maintained was being done through automated means (Nunez 2016a). Though it turned out that the human journalists were doing necessary work verifying and validating the news stories trending over the network (and preventing the spread of false information), Facebook representatives continued to use the language of algorithms and automation to claim that they were merely surfacing content important to the public, rather than shaping how information flowed. Following the controversy, Facebook’s CEO Mark Zuckerberg reiterated the claim that “Trending Topic is designed to surface the most newsworthy and popular conversations on Facebook” and eliminated the positions of journalists and editors that were involved in the review of stories (Thielman 2016; Isaac 2016). Facebook interpreted the criticism therefore as a critique of using humans, who could be subjective, instead of machines. In the wake of the firing of human reviewers, however, fake news was routinely allowed to spread across the network, showing that handing over responsibility to an algorithm was not the solution (Olheiser 2016).

Algorithmic filtering can be viewed in cultural, political, and economic terms as well. Because algorithmic filtering is often used to advance the goals of the proprietary companies that make them, a number of scholars, including Tarleton Gillespie (2012), Philip M. Napoli (2014), and Mike Ananny (2015), have made the case that algorithms need to be studied within the context of their production and impact on industry and broader sociocultural environments. According to these scholars, and others, like Frank Pasquale (2015), algorithms and algorithmic filtering can have the effect of deciding what is important for societies, which can, in turn, impact what information is produced and circulated through algorithmic systems. This is a complicated idea that looks to how algorithms can both become embedded within cultural values (for instance, those of the designer/company, or of users), and also produce and re-produce cultural values within the broader environment (for instance, the rise of clickbait due to the economic and cultural value of clicks, likes, retweets, and shares). Gillespie (2012) has made the case that algorithms, particularly those used in spaces where media is shared and consumed, are producers of “public relevance,” ranking, prioritizing, and certifying knowledge within cultural landscapes through making information more visible in a network based on how an algorithm filters content (2). Napoli’s (2014) work on *algorithms-as-institutions* compares algorithms to other institutions, to highlight how algorithms and filtering work to constrain or enable the activities of users and organizations on that network. And Mike Ananny’s (2015) work on “networked information algorithms” (NIA) extends this idea, arguing algorithms must be studied in context with both institutionally situated code (i.e. code produced by a private company or other type of organization), broader human practices, and normative logics. All three of these scholars urge that the study of algorithms must be within broader sociotechnical relationships and institutional practices, as sites of cultural production, making “some associations, similarities, and actions more

likely than others” (Annany 2015: 5). To these scholars, algorithms are not just recipes – they are blueprints for society.

Algorithmic filtering calls into question the idea that algorithms, and the platforms that use them, are neutral. Human factors play a role at many stages of information choice. Work done by Engin Bozdog (2013) on algorithmic filtering has shown that human factors play a role at many different stages in algorithmic development, deployment, and use, including in the selection of the algorithm, the selection of data and content that will be used by the algorithm, the personal judgements of users on the system, past behaviors of users, and the presentation of information through user design. When we study algorithmic systems, we should thus not be asking *whether* humans and organizations influence algorithmic systems, but *who should get to influence* this process, and through what means.

Many scholars have compared algorithmic filtering to past mechanisms of gatekeeping that were undertaken by the news media industry (Napoli 2014; Tufekci 2015). Gatekeeping is the process through which information is filtered to the public. In the news environment, gatekeeping is the process of selection of stories done through editorial judgments in newspapers (White 1997). In the Internet era, gatekeeping has changed. Though editors still make many decisions on what should be covered, this is often influenced by how that content is shared by audiences, which is often determined through metrics like pageviews, as well as social media data like clicks, views, and shares. Now that individuals have the power to amplify content through their own social media network (with much greater reach than was possible through word of mouth), Philip M. Napoli (2014) has argued that the gatekeeping function of media has been transferred, in many ways, over to the user. However, Zeynep Tufekci (2015) has made the case that algorithmic filtering (interacting with user activity) is actually playing the gatekeeping role over platforms. Through using algorithmic computational-tools to “dynamically filter, highlight, suppress, or otherwise play an editorial role,” algorithmic filters make decisions about what content the public receives, with important implications for the political and civic realms (Tufekci 2015: 208).

Paying attention to algorithms as producers of culture or gatekeepers provides an important juxtaposition to ideas about data-driven methods and algorithmic filtering which propose that these are technical rather than cultural processes, and therefore objective or neutral. Algorithms have been deployed across a number of domains under the pretense that they will solve the subjective and biased decision-making of human beings, such as within the court system or in medicine. In media, algorithms have been deployed under the guise that large scale information systems are a better indication of the totality of the “public sphere” – i.e. the scope of political and public discourse occurring within society – and thus can better represent what is important to individuals. However, the factors described above undermine this assumption. Algorithms not only shape society through what they let in or what they leave out, but they are themselves shaped by existing biases within culture-at-large.

2 Algorithmic filtering in practice: Harms and benefits

Due to the increased role that social media networks and search engines are having in information flows, recent work on algorithmic filtering has focused on its role in shaping political and civic communications. There have been a number of examples of algorithmic filtering potentially having large-scale cultural impacts. Because algorithms are opaque and exist within changing social and cultural landscapes, it is often unclear to what degree changes in the culture at large are due to algorithmic filtering. However, recent evidence suggests that algorithmic filtering can have impacts on individuals, organizations and industries, and social and political institutions.

There have been a number of different harms or concerns posed in reference to algorithmic filtering mechanisms. In the use of algorithmic filtering over social media and search, concerns have clustered around several key areas: (1) filter bubbles and echo chambers (Pariser 2011); (2) constraints on freedom of expression through government or corporate censorship through filtering decisions as a mechanism of control (Zittrain & Palfrey 2008); (3) abuse of market power on individuals and dependent industries (Caplan & boyd in press); and (4) ease of manipulation (Marwick & Lewis 2017).

Algorithmic filtering has been thought to contribute to political polarization in consumption of news media. Eli Pariser's *The Filter Bubble* warned that algorithmic filtering over social media could create political echo chambers and amplify personal biases, through personalizing content to user preferences (Pariser, 2011). His work raised concerns about the potential impact algorithmic personalization could have on *selective exposure* or the *confirmation bias* that has been viewed in media systems in the past, in which individuals seek out information that confirms their expectations about the world (Nikolov et al. 2015). Recent work done by Yochai Benkler, Robert Faris, Hal Roberts, and Ethan Zuckerman (2017) demonstrated the extent to which social media networks like Twitter have polarized consumption of political news. Their analysis showed that right-wing media outlets were tightly networked, and operated as a "distinct and insulated media system" which used social media to transmit hyper-partisan perspectives to followers (and their friends and families) (Benkler, Farris, Roberts & Zuckerman 2017). Their analysis also showed that Trump followers and Clinton supporters generally followed and retweeted entirely different media outlets, lending support to Pariser's filter bubble theory. However, the authors were unclear to what extent technology played a large role in this bifurcation of media consumption.

Though the debate is still unfolding, some filtering decisions are being viewed as a form of *censorship* by companies, which are often at their own discretion to determine what should be allowed on the site, and what should be removed. Scholars like Nick Diakopoulos (2014) have made this link directly, arguing that "filtering decisions

exert their power by either over-emphasizing or censoring certain information” (402). Beyond the idea of the “filter bubble” the idea that algorithms can filter out parts of the world has been viewed in the use of algorithms to enact a country’s policy and limit the type of information viewed within certain geographic locales. This type of filtering often occurs through a combination of automated mechanisms (algorithmic filtering), flagging by users, and human-led content moderation programs, through which content is subjected to a process of human review which determines whether it should be allowed to remain or should be removed (Klonick 2017).

Diakopoulos notes that censorship through algorithmic filters exists on a spectrum. Some countries, like China, uses computer systems to constantly scan and remove any objectionable content over platforms. Other countries, however, have entered into agreements with social media and search engine companies like Facebook and Google to limit the visibility of a narrow type of content their laws do not allow. This is because determining what constitutes objectionable content can differ between countries; many countries, for instance, have outlawed Holocaust denial, though the laws are rarely enforced. In leaked documents about Facebook’s content moderation team, published by *The Guardian*, Facebook’s policy is to only enforce restrictions around Holocaust denial in the four countries that have pursued actions with them (France, Germany, Israel, Austria) (*The Guardian* 2017). In most cases, however, Facebook has chosen to put in place a set of universal standards against objectionable content, including within them content that is blocked in specific geographic locales, with objectionable content that is not illegal per se, but is against the company’s terms of service and community standards (Chen 2012; Angwin & Grassegger 2017). Most content moderation is done through a mixture of automated and human-run processes, as artificial intelligence is not yet at the point where platforms can automatically flag some content like hate speech. In some cases, however, search engines and social media networks have begun to automate the de-prioritization of certain types of content. For instance, according to the Christian Science Monitor, Google changed its search algorithms in 2016 to prioritize “high-quality” information and de-prioritized sites associated with racial hate speech, and removed anti-semitic auto-fill queries (Williams 2016).

Algorithmic filtering changes content production and circulation in many ways beyond personalization, and can have ripple effects across the cultural industries. Evidence has shown that large social media companies, like Facebook, have shifted over time what their algorithm prioritizes in the news feed, through looking at how users interact with content as a measure of importance or “quality” (Caplan & boyd in press). As the news media industry became more dependent on Facebook’s News Feed to find their audience (and ad dollars), there is evidence that changes to the News Feed algorithm led to ripple effects across the news media industry. For Facebook, this has meant a shift away from prioritizing publications that could be construed as “clickbait,” such as articles with emotionally-laden headlines, or easily relatable and shareable content (Oremus 2016). As the News Feed began to

overemphasize headlines from BuzzFeed, Upworthy, and EliteDaily, Facebook made changes to their algorithmic filtering algorithm, to prioritize stories that were more “high-quality,” defined as significant engagement in terms of user behaviors like “how long people spend reading an article away from Facebook” (El-Arini & Tang 2014). Changes in defining “high-quality” content in terms of user behaviors of Facebook members has led to changes in headline structure and posting by the news media industry, seeking to remain prioritized by the News Feed algorithm (Kafka 2014). Changes in how an algorithm filters content can have significant impacts not only on how we consume information personally, but in how organizations and industries produce information for consumption. Tufekci’s work on how the #Ferguson protests against police brutality trended over different social media networks, also noted similar curatorial and interpretive work being done on the part of the respective algorithms of Facebook and Twitter (Tufekci 2015: 213). Though the event trended on Twitter, it did not trend on Facebook at the same time. Tufekci argues this difference between the two platforms reflected the work of “algorithmic filtering” which, through opaque algorithmic processes, determined *what* information was highlighted on the platforms.

Facebook has also experimented within their algorithmic filtering to improve pro-social behaviors and increase civic engagement. In a study they conducted during the 2010-midterm elections, Facebook sought to see whether making changes to their algorithmic personalization model, as well as clever user interface design, could “nudge” users towards the polls (Zittrain 2014). Through adding features like an “I Voted” button, as well as showing users when their friends and family members had done so, the researchers found they were able to mobilize a potential total of 400,000 voters to cast their ballot in the midterm elections. Though this algorithm change was a positive move towards increasing civic engagement, it raised questions about the ease through which major social media and technology companies are able to influence mass numbers of individuals. The issue centered on how algorithmic filtering and personalization would be used, and by whom – raising questions about potential “digital gerrymandering,” where filtering was used within some neighborhoods towards political aims, and not others.

Many scholars have expressed concerns that algorithmic filters are too easily manipulated by industry actors like search-engine optimization companies, state and non-state propagandists, and other individuals with a financial or political agenda (Caplan & Boyd 2017). In these cases, individuals and organizations are able to learn how the algorithm prioritizes content, and create content specifically geared towards achieving a high ranking, and thus seen by a larger number of people. Developers of the Google search engine expressed this concern early on in their work, yet claimed that their PageRank algorithm, the underlying algorithm for the early Google search engine, had “immunity to manipulation” (Page, Brin, Motwani & Winograd 1999: 12). Despite the safeguards the developers built into PageRank, the search engine optimization (SEO) industry, a form of marketing that uses techniques to increase the

ranking of a website on an algorithm, has been growing steadily since the early days of search engines, reaching \$65 billion in 2016 (DeMars, 2016).

Manipulation of algorithmic filters has moved beyond marketing. Over the course of 2016 and 2017 concerns arose about the manipulation of the Facebook News Feed and the Google search engine algorithm through state and non-state actors for political purposes, to spread false information around political candidates and issues across the United States and Europe. This type of manipulation can use tactics like sockpuppet accounts (false online identities) and bots over social media, to pad retweets, likes, and shares for different types of content, as well as the number of followers of an individual, to make them appear more legitimate (Woolley, 2017). Manipulation has also been documented in the use of “google bombing,” defined by Judit Bar-Ilan (2007) as an active manipulation and “a collective attempt to change the placement of some documents in Google’s result list for a given query.” *Why* individuals manipulate algorithmic systems is still unknown; however, the increased importance of search engines and social media for the circulation of knowledge means that influencing the ranking of a search result, a Facebook post, or a tweet, can have powerful consequences.

3 Challenges for accountability in algorithmic filtering

For social media networks and search engines, there are many different factors that can influence algorithmic filtering. Decisions about algorithm design, how data will be collected, stored, and used in the process of filtering, as well as user interactions with a system (amongst other factors) all work into how an algorithm filters content. This has led to a number of problems determining *who* or *what* is responsible for algorithmic filtering. Within the media context, concerns about the spread of misinformation and disinformation, as well as the accessibility of hate speech, has led to an ongoing debate about whether search engines and social media networks should be held accountable for the content posted onto their networks. Questions about accountability, and liability, have led to a plethora of approaches geared towards understanding how algorithms filter content. At the center of these debates are issues such as lack of access to algorithms and code used to train algorithmic systems, as well as who should set the rules for how content that affects individuals all over the world is filtered. This section provides an overview of the challenges in studying algorithmic filtering, approaches that have been taken to studying algorithms, and the various ways state and non-state actors are working to establish rules or standards for algorithmic filtering.

Algorithms are very difficult to study and present unique problems for oversight. First, many of the large scale algorithmic filtering mechanisms underlying social

media networks and search engines are proprietary and thus “black boxed” or hidden from view (Pasquale 2015). Burrell (2016) has made the case that, with machine learning algorithms in particular, there are actually three different types of decision-making currently operating in algorithmic decision-making; (1) intentional opacity, and the cover given to algorithm makers through intellectual property law; (2) illiterate opacity, or a dearth in the capacity for most individuals to understand how algorithms work, even if they are made public; and (3) intrinsic opacity, arising from machine learning algorithms that are difficult to interpret and can change frequently from person to person.

Companies deploying algorithms often do not want to release algorithms to the public, for fear that their technology may be replicated, or even manipulated through individuals and organizations learning how the algorithm filters and plays with the set of inputs. Because it is possible to learn how an algorithm operates even without access to code, individuals and organizations often learn algorithms to ensure their content is prioritized within the system. This means that algorithms are changed frequently to prevent or limit such manipulation. And because algorithms are the property of one company, these changes often happen unilaterally, i.e. through the consent of only one party (the owner), and without a need for a public acknowledgement or disclosure of the change for its users (unless the change requires a corresponding adjustment to a user’s terms of service).

4 Research approaches to algorithmic filtering in the media context and beyond

As algorithmic systems have progressed, and their dominance within daily lives expanded, a number of researchers across domains like computer science, engineering, information science, as well as the social sciences and humanities, are active in building fields to study how algorithmic filtering is both structuring and impacting our social world. In general, these approaches call for increasing visibility into algorithmic filtering (such as increasing *transparency* and *accountability*), and expanding technical and investigative approaches that, when paired with research and reporting, can help unveil how the ‘black boxes’ of algorithmic systems operate as they are deployed into society.

4.1 Increasing transparency or explainability

Scholars and advocates have called for increasing the transparency of algorithmic systems, or the public release of algorithms and code, particularly in cases when data-driven technologies may affect the delivery of public services, or impact

the public interest in some clear way. This call for transparency of algorithms is in response to the opacity or hiddenness of algorithms (often referred to as a “black box”), and is often made in reference to the need to increase access to information within democracies specifically for purposes of accountability (Pasquale & Citron 2014). Requests for transparency of algorithms also often include request for the data upon which a machine learning algorithm was trained, given that training data is often *the* source of bias in a system, rather than the algorithm itself (Borocas, Bradley, Honavar & Provost 2017).

Lepri et al. (2017) have argued that some algorithms should be subject to more stringent requirements for transparency and accountability. These “social good decision-making algorithms” include those that strongly influence allocation and decision-making around public goods, such as health, safety, access to financial instruments, and fair employment (Lepri et al. 2017: 3). In many cases, increasing transparency within these contexts would be much easier – in general software is used because of relationships that have already been forged between technology companies and public institutions, they are finite and contained (i.e. not continually updated like large software-as-a-service platforms), and data sources are generally limited, pre-defined, and dependent on these relationships with public institutions. Despite this, and despite often clear legal arguments in favor of disclosure of algorithms to experts within a field, such as lawyers, requests for transparency of code and data used by public services are often unmet. There are a number of examples, however, when algorithmic decision-making could have impacts on the public interest and yet are not embedded within the public institutions of areas like health and safety. Most recently, the impact of large-scale algorithmic decision-making on the news media industry has public interest dimensions (Napoli 2001).

In many cases, requests for transparency of algorithms and data come into conflict with other values like privacy, accessibility, and legibility. Large technology companies have claimed that releasing code and data would violate their user’s privacy and terms of service, and are thus not subject to state or federal open data laws (Electronic Privacy Information Center). Additionally, there have been concerns raised about whether increasing access to code and data would actually increase awareness of how a technological system impacts individuals and society. This is because of (a) high barriers to understanding how code functions, which requires a technical education beyond what most individuals currently have, and (b) because code often relies on user data specific to time and place, meaning that studying code out of context will not provide an accurate portrayal of how the technology functions day-to-day.

A number of scholars, as well as recent law adopted in Europe’s General Data Protective Regulation (GDPR), to come into effect in May 2018, have argued that rather than transparency of code, individuals have should have access to a “meaningful explanation” of how the logic of algorithmic or automated systems function (Selbst & Powles 2017). In legal circles, debate is currently under way about

whether the GDPR conveys a *right* to citizens for explanation of automated decision-making, or just “meaningful information” of how the algorithm functions (Goodman & Flaxman 2016). Selbst and Powles (2017) argue that the GDPR does convey a “right to explanation” regardless of whether the use of the phrase is explicit; however, the authors note that the substance of the right to meaningful information about automated decision-making is still up for debate and requires some interpretive flexibility.

4.2 Technical and investigative approaches

Increasing awareness of how algorithms operate can serve as its own intervention within the processes of algorithmic culture, and lead to greater oversight. However, in machine learning systems, this often requires having access to not only the algorithmic models, but the data used to train these models – data is an essential part of how the algorithm has come to categorize, prioritize, and filter content in particular ways. Some scholars, like Diakopoulos, have argued that increasing transparency into algorithms and data can solve many oversight concerns. Diakopoulos calls for this to be done in conjunction with existing oversight mechanisms, such as through journalism, who can use investigative means in conjunction with computational processes to “reverse engineer” algorithms as an investigative reporting technique (Diakopoulos 2014). This approach has been critiqued, however, as requiring significant expertise on the part of journalists, and as remaining susceptible to being undermined by platform owners who can both change algorithms unilaterally, and claim that important data has been left out of public APIs that enable such investigations.

Similarly, Christian Sandvig and colleagues (2014) has argued for the “auditing” of algorithms by social scientists through field experiments with algorithmic systems, to unveil potential ethical issues such as discrimination and other power dimensions. Sandvig, Hamilton, Karahalios, and Langbort (2014) propose the “audit study,” a field experiment in which “researchers or their confederates participate in a social process that they suspect to be corrupt in order to diagnose harmful discrimination” (5). This method has been used to investigate other largescale systems in the past, such as in financial accounting and environmental engineering. Within algorithmic systems, Sandvig and colleagues suggest five different kinds of auditing, including auditing code, noninvasive user audits, sock puppet audits (i.e. the creation of false accounts), and collaborative and crowdsourced audits, each with their own tradeoffs. In each case the authors argue for increasing access to the code itself, or for using mechanisms like impersonating users, to gain a better understanding of the impact or effects of the algorithmic system.

Though Sandvig and Diakopoulos’s work attempts to overcome the opacity of algorithmic systems, unveiling either their inner-workings (through reverse engineering)

or their effects (through the use of sockpuppet or crowdsourced efforts to produce or reproduce harms), efforts to audit or unveil algorithms are still limited. Part of these limitations emerge through the economic arrangements in which algorithms are produced – i.e. by proprietary companies who continue to have a privileged relationship to their algorithms and data (and can thus legitimize or de-legitimize research accordingly). Private platforms are the only actors with accurate visibility into their code and data sources, which can lead to information asymmetries for researchers using even the tools provided by platforms, like Twitter’s API, to investigate activity online. Though they did not mention the study by name, Twitter publicly discounted third-party studies of bots, like that performed by the Oxford Internet Institute (Woolley 2017), on their corporate site. Twitter’s VP of Public Policy, Government, and Philanthropy, Colin Crowell, claimed that to stop the manipulation of their system through bots, they are unable to share details of the signals they use to identify them in their public API (Crowell 2017). Colin went on to say that, because of this opacity, “this means research conducted by third parties about the impact of bots on Twitter is often inaccurate and methodologically flawed.”

4.3 Algorithmic or computational thinking and digital literacy approaches

Due to the increased role that algorithmic decision-making is having on society, many scholars and advocates have argued that what is needed is significant investments in education geared towards improving algorithmic or computational thinking, coding, web and/or digital literacies (Tedre & Denning 2016). Though coding literacy has been put forward recently as a solution to a changing job marketplace that has moved more towards technology, a number of advocates have argued for improving code or computational literacy amongst the general population as algorithms and computer science have become more important culturally. In many ways, increasing algorithmic literacy is a necessary counterpart to calls for increased transparency of code as algorithms become embedded in more aspects of public services.

Jeannette Wing first wrote about “computational thinking” in 2006 for the *Communications of the ACM*, arguing that it is a “fundamental skill for everyone, not just for computer scientists” which should be an ingrained skill for all individuals due to not only the potential gains in logical and analytical thinking, but because computing has become so ubiquitous (34). Burrell (2016) has argued that because most people do not have the technical skills to understand the underpinnings of algorithmic systems, algorithms remain opaque even as code is released to the public. Increasing computational and algorithmic literacy amongst the general population is not, however, sufficient for increasing oversight, because most citizens would not have the time or resources to dedicate to such investigations.

5 Regulatory approaches to algorithmic filtering

One of the major challenges with the use of algorithmic filtering across sectors is that technology has generally outpaced the development of policies established for the proper use and oversight of those algorithms (Lepri et al. 2017). The European General Data Protection Regulation has included language about a “meaningful right to explanation” in algorithmic decision-making systems. As of right now, it is unclear how or through what institutional bodies those measures will be enforced. Algorithmic filtering is also difficult to capture from a regulatory perspective because it is a tool or mechanism that is being used across a wide range of industries and sectors, each with its own rules or standards (Cohen 2016).

Florian Saurwein, Natascha Just, and Michael Latzer (2015) argue there are three main categories of governance measures taking shape in the regulation of algorithms, including: (1) self-organization of individual companies through adopting principles and standards that reflect the public interest and imposing internal quality assessment; (2) self-regulation through collective efforts of an industry that is taking measures to pursue public interest aims, such as industry standards, certification bodies, and ethic committees and commissions; and (3) state intervention through laws and regulations.

5.1 Self-organization of individual companies

Currently, the vast majority of companies individually self-regulate through terms of service and community standards. This is largely because most large-scale information technology companies are U.S.-based, and are thus covered by Section 230 of the Communications Decency Act, which provides immunity from liability for providers and users of an “interactive computer service” (Communications Decency Act 47 U.S.C. §230). This law holds that interactive computer services, such as search engines and social media, are not held liable for the content users post to their platforms, with exceptions made to clear violations of federal law (such as child pornography), and intellectual property claims. For other types of content, companies are at their own discretion to police. This voluntary content moderation or “blocking and screening of offensive material” is referred to as the “Good Samaritan” clause, which states that no provider shall be held liable on account of taking actions voluntarily to “restrict access to or availability of material that the provider or user considers to be obscene, lewd, lascivious, filthy, excessively violent, harassing, or otherwise objectionable, whether or not such material is constitutionally protected” (CDA 230(c)(2) (a)). Because of this section, large technology companies are at their discretion to moderate content, and cannot be held liable for the content they keep up, or the content they take down.

That being said, companies like Facebook and Google have been subject to intense public scrutiny about their content moderation practices. Most large platforms use a combination of automated algorithmic filtering and teams of human reviewers (known as moderators). Klonick (2017) has made the case that content moderation policies even at the major platforms have been shifting iteratively and rapidly as a result of increased awareness of the importance of content moderation, drastic increases in use of social media and search around the world, and the need to police a wider variety of content deemed unacceptable. For major platforms like Facebook and Google, filtering initially was used for illegal content, as well as objectionable content such as pornography. Now, steps have been taken to use algorithmic filtering and content moderation to counteract other types of harmful speech such as bullying, revenge porn, and, most recently, fake news and hate speech. Understanding the boundaries of these cultural phenomena is no easy task. For instance, Facebook came under fire in 2016 for censoring the famous “Napalm Girl” photo, after filters and moderators recognized the photo as sexually explicit, ignoring its cultural influence (Levin, Wong & Harding 2016). The company has also been criticized, however, for trying to establish a global set of standards for content moderation that does not take into account local cultural contexts (Angwin & Grassegger 2017). Content moderation, whether automated or done in conjunction with humans, is a complicated feat, requiring a balance between political values, such as avoiding censorship and promoting free speech, and the need to be sensitive to context, as well as the need to react and remove material quickly. For this reason, interventions around algorithmic filtering and content moderation almost always also involve user input (i.e. users flagging content as problematic), and are increasingly including partnerships with other organizations. In the fight against “fake news,” platforms like Facebook are also increasingly pairing up with media and fact-checking organizations, recognizing that verifying news content requires additional expertise.

5.2 Self-regulation of industries

Saurwein, Just, and Latzer (2015) include processes and practices like codes of conduct, organizational and technical industry standards, and quality seals and certification bodies within the category of “self-regulation.” The authors highlight how this mode of governance has been used in areas like intellectual property and digital rights management, as well as advertising. Other issues related to algorithmic filtering within media, such as preventing manipulation, increasing oversight for governmental or corporate censorship through filters, and filtering out hate speech and false information, are only recently being addressed through industry bodies. The Partnership on Artificial Intelligence is an emerging industry body that is hoping to establish best practices and evaluate research on the social impact of artificial intelligence

and filtering (Partnership on AI 2017). One major challenge in self-organization is that platforms often transcend multiple industries, making their efforts difficult to track. Right now, platforms are partnering with news media industry and fact-checking organizations to review content, and establish seals for credibility, fact-checking, or trustworthiness of content (Newton 2016). Platform companies are also working with other industry bodies more clearly in the area of news media, such as the Trust Project. These partnerships are intended to establish criteria for “trustworthiness” to be adopted by the media sector through metadata, to signify the credibility of a source to search engines crawling sites for structured data (Google News Lab 2017). These efforts, however, are still unfolding and are ongoing.

5.3 State intervention

The last category offered by Saurwein, Just, and Latzer (2015) is state intervention, which includes not only law and policy, but the provision of public services, incentives through subsidies, taxes, and awareness campaigns. There are currently many different efforts being put forward by states to govern various aspects of algorithmic filtering, including investigations into fair competition and antitrust law, as well as laws prohibiting the availability of certain types of content in different geographic locales. Most recently, Germany has passed a law called the Network Enforcement Act which holds social media companies and search engines to the same standards as past media technologies, requiring them to filter out offensive speech such as hate speech and false information disguised as news (Library of Congress 2017). Countries are also taking steps to establish bodies and commissions to track information warfare campaigns over social media and search engines, and to study their impact. In the Czech Republic, there has been a new unit, referred to by *The Washington Post* as a “truth squad,” to combat the proliferation of false news. In particular, the government operation will catalog and track opaque, pro-Russian websites in the Czech language that are intended to “foster paranoia” and undermine “faith in democracy and the West” (Faiola 2017). A similar effort has taken shape in Finland, which more than two years ago moved to develop a “Hybrid Threat” center to combat disinformation and fake news, such as that spread by the Russian government. Finnish President Sauli Niinistö first warned the EU and NATO of “information warfare” affecting Finland in October 2015. This organization, the Center of Excellence for Countering Hybrid Threats, which will officially open in 2017, is supported by the Finnish government and will serve as a platform for the EU and NATO to pool resources and expertise across countries (North Atlantic Treaty Organization 2017). The French Senate has proposed the appointment of an Internet Ombudsman who is able to respond to concerns about the spread of fake news, as well as other issues (European Commission 2017).

6 Conclusion

Algorithmic filtering is becoming an everyday part of how people are consuming information. How filters categorize and prioritize information can have ripple effects across industries and communities. Though filtering mechanisms have been playing an increasing role in how information is consumed and distributed for several decades, recently more public attention has turned to their importance. Concerns about how private companies can use filters to censor particular types of information, without oversight, has led to increased calls for accountability of algorithmic models. Oversight, however, presents its own challenges. First, algorithms in the context of search and social media are very difficult to study. They are not only hidden behind interface design, which itself has its own consequences for user behavior, but they change frequently, and are often personalized for each user, for each query. Gaining access to an algorithm to understand how filtering takes place will also not provide much information on *why* the model has been built along those terms, as algorithms often embed decisions made by engineers in teams, or policies and standards established by the company. This has led to a lack of accountability and oversight for many of the major information systems currently underlying the civic and political realms.

An even greater challenge for algorithmic filtering, however, is that there still exists very little consensus as to *what* the standards for filtering should be. Because most filtering and content moderation is being done voluntarily by companies, the policies and logic for this filtering is kept behind closed doors. This type of information asymmetry is even more problematic as algorithmic media systems are adopted globally, which presents problems for technical systems that must either build to one standard or policy, or build in mechanisms for filtering that can take into account variations at the local and geographic level. As algorithmic filtering continues to play an important role in how information and content is deemed relevant for users all over the world, it will be necessary to understand *who* or *what* should be determining the rules for algorithmic filtering, and according to whose values and goals.

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Eun-mee Kim

30 Media Literacy

Abstract: Reflecting the contemporary media environment where the line between people and media gets blurred, this chapter puts the concept of media literacy as a core constituent constantly making up the communication world. It starts with over-viewing how the conceptual predecessor, communication competence, is related to media literacy and various theoretical perspectives surrounding the concept. It summarizes the current scholarly efforts and debates on systematically delineating key dimensions, including the emerging ones such as photo-visual literacy and creation literacy which requires future research attention, to reach a workable definition suitable for empirical research.

It surveys the current social scientific scholarship surrounding the concept by dividing the studies according to whether they position media literacy as a dependent variable or as an independent one. The evidence that structural determinants such as one's socio-economic status matters confirms that it is a property of society. Studies have also focused how various literacies are learned, which have repercussions on how the media literacy education should be planned.

Positive consequences of media literacy on the individual level are quality of media use, political and civic engagement, and increase of self-expression. Agendas for future research are proposed including the notable role of media literacy in balancing the opportunities and risks associated with media use.

Keywords: media literacy, Internet literacy, communication competence, operational literacy, informational literacy, creation literacy, Internet risk, Internet opportunities, civic engagement, self-expression

1 Why media literacy now?

Since people nowadays live 'in' the media rather than 'with' the media (Deuze 2011), the complexities and multi-dimensionality of the competencies which are required to participate in a society have greatly increased. Media literacy has contributed to the making of empowered individuals, engaged citizens, critical thinkers, and effective communicators. It has also been a powerful agent of social change (Mihailidis & Thevenin 2013). Media literacy has become a necessary life skill in contemporary society.

The term "media literacy" has come a long way from the concept of literacy as the ability to read and write. Indeed, literacy used to be something which you either had or did not have. Today we have media literacy, information literacy, and computer literacy. In fact, we are in the midst of a tsunami of literacies: Internet literacies, digital literacies, new media literacies, ICT literacies, and so on. New terms continue to pop

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up as information and communication technologies multiply and emphasize new aspects of media literacy. How we are to systematically conceptualize and measure “literacy” is a matter for ongoing debate.

Media, by its very nature, never stands still; nor do the skills and knowledge required to use them. Recent decades have seen the rapid digitalization of virtually all media and information technologies. Subsequently, different strands of services, previously regarded as separate and sometimes unrelated to “media,” have converged on social media under categories such as social shopping, social search, social news, etc. These changes impact how we express ourselves and construct our own personal networks and identities, how we gather information and make decisions, how we learn and empower ourselves, and how we act and collaborate as members of a larger public. The digitization of information and the convergence of media have altered the nature of literacy.

In this contemporary media environment, media are not something “other” than us, but are ourselves. We hear one another, make or break connections with one another, and do things together through media platforms. We *are* the media (Gillmor 2004; Lynch 2016). This condition has reached the point of being a cliché, but it is never an error to emphasize that we are not only the users, but also the messengers and, indeed, the sources of information. Therefore, media literacy not only belongs to the audiences which must use the media and process the information found there, but is also a core constituent of the media itself, and is therefore an essential piece of the puzzle of the mediated communication environment.

2 Research traditions

Traditionally, the study of media literacy has been highly interdisciplinary in nature, crossing disciplines such as sociology, communication studies, education, information science and literature, among many others. It also has been at the center of attention as a policy area, in particular with regard to the digital divide phenomenon. Additionally, scholars, educators, social activists, and many concerned parents who are vigilant about their children’s seeming obsession with media, have been equally concerned with the issue of media literacy. Such diversity regarding disciplinary and practical concerns has resulted in an assortment of points of emphasis, which in turn has led to a certain level of conceptual confusion obstructing the construction of a coherent framework of research. As one way to tackle this problem, Tyner (1998: 63–68; as cited in Martin 2008) suggested that, while recognizing the need to refer to multiliteracies, we should identify groups of linked literacies, while at the same time retaining “literacy” as an overarching concept. The distinctions between these must remain, not only in order to keep up with the technological and cultural advances, but also for the purposes of maintaining a healthy scholarly debate. However, this chapter

prefers to keep the broad umbrella term “media literacy” (emphasizing the continuity), while still exploring the innovative aspects of changing media environment.

It is useful for the purposes of research to understand how the current concept of media literacy has evolved. Doing so reveals the richness and complexity of the idea. Particularly for empirical researchers, such an understanding enables us to decipher the complicated patterns of the data which, in turn, must be constructed upon a particular measurement scheme bound to omit some aspects of the concept. With media technologies and culture being constantly in a fluid state, conceptualization (and measurement) that is proven to be useful in one context may not be significant in another media or in a different cultural or social context. Understanding the conceptual roots of media literacy endows researchers with a deep reservoir of ideas and creative flexibility with which new interpretations and new questions can be opened.

2.1 Communication competence

Considering the converging nature of the current media scene and the emergence of social media, the communication competence of a communicator needs to be considered in relation to the media literacy. The two concepts are quite overlapping. Communication competence (CC) is defined as the ability to choose a communication behavior that is both appropriate and effective for a given situation. It consists of knowledge of the behavior that is suited to a given situation, the skill to conduct the behavior, and the motivation to communicate in a competent and appropriate manner (Spitzberg & Cupach 1984). CC concerns speaking and listening, while literacy covers reading and writing.

The conceptual roots of CC are to be found in the Greek and Latin rhetorical tradition, as may be seen in such seminal figures as Aristotle and Cicero. Aristotle emphasized not only the skills and knowledge required for (public) speaking, but also ethics, treating both effectiveness and appropriateness equally. Over the years, the relative importance of appropriateness and the ethical side of CC have been progressively minimized, while effectiveness has emerged as a primary goal of CC. More recently, other concerns such as empathy, adaptability, and context management skills have been added to CC, some of which may be revived as particular qualities necessary for a competent networker (“network literacy”) or creator (“creation literacy”).

At the root of CC is the problem of how to impart to an individual the skills to create and deliver messages better. Backlund and Morreale (2015) provide us with a history of the way CC has been implemented by those who have advocated for a liberal education, one which places a significant emphasis on educating people to be articulate in their speech and writing. CC has mainly focused on the abilities of the sender as opposed to those of the receiver. In this regard, CC is complementary to traditional media literacy, which concentrated on the reception of messages.

The discourse surrounding communication competence has evolved to include the concept of *mediated* communication competence, as studies have confirmed the importance of communication competence in mediated interactions (Keaten & Kelly 2008; Lee, Park & Hwang 2015; Smith 2003). Mediated communication requires one to work with the distinctive nature of mediated communication, such as asynchronicity and the lack of visual or non-verbal cues. Therefore, the concept of mediated communication competence has begun to include the skills and knowledge necessary to deal with the nature of the medium at hand.

Spitzberg (2006) emphasized the link between computer-mediated communication (CMC) and face-to-face communication competence. He built a model of CMC competence which consisted of fifteen constructs, including CC's three core dimensions: motivation, knowledge, and skills. CMC motivation, knowledge, and skills mirror the well-established divisions of affective, cognitive, and behavioral aspects of social behaviors. CMC *motivation* refers to a moving force behind the communication behavior, positive or negative such as affinity or anxiety. CMC *knowledge* consists of the cognitive comprehension of content and of the procedural processes involved in conducting appropriate and effective interactions in a computer-mediated context, while *skills* are goal-oriented behavioral routines and practices (Spitzberg 2006). A prime research agenda of those interested in CMC competence has been the development of personal relationships in the mediated environment. Compared to related concepts, such as competence, human capital, and cognitive skill, the term media literacy signifies the textualities of mediating technologies (Livingstone 2003).

Notwithstanding that the concepts of media literacy and (mediated) communication competence do overlap, the research studies in each area rarely discuss the works dealing with the other, nor do they mention the commonalities between the two. The CC literature makes the point that the competencies required to effectively and appropriately engage in mediated communication depend on the context of changing technologies. The original CMC competence model was later extended to other models, such as that applicable to mobile communication (Bakke 2010).

The various constructs under the CMC competence concept or the mobile competence concept make clear that the nature of mediating technology, its affordances, its unique relationship with users, and even those users' social and cultural practices, must be integrated. We can see the difference between the two concepts – communication competence and media literacy – being increasingly blurred as technologies and communication contexts converge.

2.2 Protectionist and empowerment views

The two major traditions most relevant to the current social scientific research on media literacy are found in the areas of communication and education. The media literacy

research in communication originated with a protectionist view, while the education scholars lean towards the proactive/empowerment view. The former was an extension of the media effects research tradition. Knowledge accrued through such research has been closely related to critical thinking toward media content on the question of what effect it has on audiences. It takes the view that media literacy is a way to protect people (especially the young) from the potential negative effect of the media.

On the other hand, the principal interest of those who hold to the empowerment view is how media literacy should be taught and improved in a classroom setting. Although media scholars do not unanimously hold to the protectionist view (nor do education scholars solely take the proactive view), the rough division between these two perspectives has been well documented by the scholarly debate between Potter (2010; 2011) and Hobbs (2011), published in the *Journal of Broadcasting and Electronic Media*.

The orientations embedded in each perspective are pretty much self-explanatory. The protectionist view focuses on the potentially negative effects of media use, while the empowerment view emphasizes the positive effects. As digital media provides seemingly endless affordances for users' participation in the media in various forms that would not have been possible before, more research tends to favor the empowerment view. Although the potential harm stemming from both the content and contact with digital media is not as little as that in the traditional media environment, recent research has tended to focus more on the benefits and opportunities that can be garnered from media use, rather than on the potential harm.

There is also a difference between the effects tradition and the critical tradition within communication studies. Some researchers prefer to use the term "Internet skills" rather than the more nebulous term "media literacy" (for example, Hargittai & Hsieh 2012; Livingstone & Helsper 2010; van Deursen & van Dijk 2011). While literacy is most commonly defined as the abilities and skills of individuals for scholars in the effects tradition, critical scholars in communication studies argue that the concept of media literacy should be approached as a culturally and historically conditioned process. These scholars also think that literacy is not something that resides within an individual who can simply 'acquire' a skill set (Hartley 2002, as cited in Livingstone 2003); instead, they emphasize that media literacy is an ideologically charged term, subject to social and political control.

While this macro perspective is not often explicitly referred to in the social scientific literature on media literacy, understanding the social aspect of media literacy helps to contextualize the skill-centered approach of media literacy as it is conceptually positioned between public knowledge and individual knowledge in society. Research on the social and structural determinants of media literacy (e.g., Hargittai 2010; van Deursen & van Dijk 2011; Zhong 2011) reflects the importance of understanding social forces regulating media literacy. While acknowledging the difference, this chapter will focus on individual skill-based media literacy. Even though taking a broader view certainly has its merits (comprehensiveness, for one), keeping too many focal points of media literacy may be problematic as a research strategy.

3 Media literacy in a changing media environment

In terms of the medium in question, scholars have either focused on print, audio-visual media (mostly television), or the Internet (or computers) from 1990s. These are converging under the umbrella of (new) media literacy or digital literacy (to distinguish it from traditional media literacy). Recent studies have tended to be concerned with all forms of media, focusing on the similarities, such as the digitization of information and the convergence across channels of transmission.

The converged media provide information, connect people and groups to play and to form relationships, contain and record data (as in libraries and archives), and provide open notes and diaries for self-expression, all at the same time. Users deal not only with content (information), but also with relationships, and self-expression. Digital media practices, such as online identity construction and peer production (Jones & Hafner 2012), are as important as information processing, and they are profoundly intertwined.

Newer practices, such as blogging, mashing, mobbing, and memeing, require both new abilities and skills, as well as new ways to make connections with other people. A user needs to know how to search and evaluate the sources, to process information in different modalities, to integrate/aggregate/re-package fragmented and scattered ideas, and to express oneself according to media affordances (or sometimes even bending those affordances), all the while managing one's identity and privacy. The division between producer and receiver is no longer viable, although people vary in terms of their levels of engagement and participation. Users are not only able to create content, but also to invent new mediation processes using programming tools which are rapidly becoming more accessible to ordinary people. Access dimension, that is, operational and navigational knowledge and the skills required to use digital media, have become much more diversified and varying in depth as they involve both reception and user actions, including the creation of messages in various forms.

Changes in technology inevitably trigger shifts in the nature of the content. Livingstone, van Couvering and Thumin (2008) have noted the blurring boundary between media and information with the digitalization of media. Information exchange and relationship building may not be easily differentiated, because the information is constructed "in" the media as a crowd-sourced form. "Networked" knowledge has completely distinctive characteristics, reflecting the nature of networked media. Compared to traditional knowledge, it may not be as accurate and stable, but is transparent, rich, and comprehensive (Weinberger 2011). Dealing with such knowledge and information requires a much deeper understanding of the operations of the media, not only the technical but also the social and cultural aspects. In that regard, the division between medium-related and content-related skills, which seemed so evident in the past, may now seem feeble.

Buckingham (2008) offers the criticism that most discussions of digital literacy are narrow, in the sense that they just focus on the search for information and, at

most, extend to assessing the quality of online content. He emphasizes that today's media involve much more than mere information retrieval. Some have suggested that medium-related operational skills may be less important than a discriminating analysis of digital content (Gilster 1997). According to Livingstone et al. (2008), information literacy as developed in the library science and information sectors should be actively integrated into media literacy. The ALA's six-stage model for information literacy includes recognizing a need for information, identifying what information is needed, finding the information, evaluating the information, organizing the information, and using the information (American Library Association 1989). It is also notable that the depth of information processing, comprehension, and learning cannot be solely attributed to the level of media literacy, but rather to the individual's level of intelligence, education, and other structural and individual determinants.

Researchers have made efforts to systematically define media literacy and have suggested dimensions along which to integrate activities and competencies. The dimensions that are most frequently adopted are consumption-production/promsion (Chen, Wu & Wang 2011; Lin, Li, Deng & Lee 2013), content-medium (van Deursen, Helsper & Eynon 2014; van Deursen & van Dijk 2011), and functional-critical (Chen, Wu & Wang 2011; Lin et al. 2013). Van Deursen et al. (2014) proposed five sets of digital skills – operational, formal, informational, communicational, and content creation – the first two consisting of medium-related skills and the rest content-related skills. Such a grouping approach is theoretically justified based on the distinctions between tool and text and between medium and message (Kim 2011; Livingstone 2009; Tyner 1998).

4 Key components of media literacy

The most widely accepted definition of media literacy is “the ability to access, analyze, and produce information in a variety of contexts” (Aufderheide 1993, p 6; Buckingham 2007; Livingstone 2004; OfCom 2004). Another oft-cited definition is the one adopted by the European Commission: Media literacy is the ability to access the media, to understand and critically evaluate different aspects of the media and media content, and to create communications in a variety of contexts (Commission of the European Communities 2007). Studies vary regarding exactly which terms to use to refer to each component and the lists of the activities to be included in each, but most acknowledge the three separate components.

“Access” not only refers to ownership of a device, but also to possessing the operational knowledge and skills required to use the medium at hand. For example, to practically “access” the Internet one needs to be able to access and navigate search engines, portals, and websites. The “understand/analyze/ evaluate” part refers to the knowledge and skills that enable information processing, which requires an

understanding of the unique textualities of the media and of the social and cultural practices surrounding them, such as codes and conventions. This is most relevant to the critical thinking skills which are a conceptual core, regardless of the particular form of communication being used. “Produce” refers to the ability to formulate messages that are appropriate to the medium at hand.

Medium-related operational and navigation skills can be taught and may improve through practice. Those with a higher level of operational literacy can achieve any task within a shorter time frame and may be aware of diverse ways to attain a result. Achieving a certain level of medium-related skill is an initial hurdle, especially for novice users, and consequently is often made a goal of public policy.

The traditional media environment emphasized protection against the commercial (and hence the constructed) nature of media content, especially advertising, which differentiated “media” literacy from the other literacies (Commission of the European Communities 2007). The emphasis was on critical thinking ability, based on the knowledge of a media system and how it is situated and functions within a given social and cultural milieu. The purpose of the dominant protectionist view was to protect audiences from potentially negative effects, such as violence, sexual content, stereotyping, propaganda, etc. “Critical thinking” meant a broad cognitive process in which one challenges the information, incorporates it with one’s concepts, and construct one’s own ideas.

The evaluation of the credibility of sources, analyzing the overt and covert meanings and making connections among the ideas produced in different publications are all interrelated and make up critical thinking. In mediated communication process, the knowledge on how specific media mediates the human meaning-making process is essential part of critical thinking. According to Potter (2010), such knowledge constructs include media effects, media content, media industries, the real world, and the self. Considering the way that traditional media literacy emphasized the critical processing of information, there is some question as to how much the term “media literacy” was concerned with the “media” part.

“Content literacy” refers to one’s ability to sift through information to achieve certain needs based on the knowledge of the mediated nature of the messages. Although it is involved in both consumption and production, the prime emphasis of content literacy has been on assessing information quality and credibility (Koltay 2011).

The ability to infer and accurately interpret ambiguous messages in interpersonal media is also crucial in today’s social media environment, with its crowd-sourced and socially networked information (Jonas, Boos & Sassenberg 2002). Understanding the meaning and intention, and correctly perceiving expressed emotional tones do not come as easily as they do in a face-to-face context.

Compared to operational literacy, content literacy may not be easily improved through repeated practices such as in a learning-by-doing process (van Deursen, van Dijk & Peters 2011). Improving information literacy not only requires education at

home and school (and is related to the level of general intelligence), but also advances at a slower pace than operational literacy may advance. Hargittai and Young (2012) pointed out that today's Internet users have a limited ability to filter information from increasingly abundant online sources. Many educators have expressed their concerns about adolescents' inability to critically consume and produce information (Ba, Tally & Tsikalas 2002; Leung & Lee 2012). Differences in information literacy may lead to knowledge gaps, as well as participation gaps (Jenkins 2006: 257).

The "produce" part of media literacy is often referred to as "creation literacy," the ability to create diverse kinds of messages. Some have called this self-expressive literacy (Ahn, Seo & Kim 2013) or prosuming literacy (Lee, Chen, Li & Lin 2015). The essence of social media is a constant flow of message exchanges. Social media is a place where users consume information and reveal themselves through messaging and self-expression at the same time. Developing critical media literacy is even more important in content creation, considering that *we are* the media.

Although "access," "understand," and "create" have long been regarded as key aspects of media literacy, the create part has recently gained attention with the emergence of digital media. Creation literacy is the ability to formulate, upload, or share messages in the form of text, photos, or video postings – including social media postings, product reviews, and comments in news or discussion boards.

Whether creation literacy is conceptually independent of operational and information literacy may be debatable. Some previous studies of Internet literacy have included abilities such as publishing different forms of content as an operational literacy (e.g., Hoffman, Lutz & Meckel 2015; Kim & Yang 2016a). Creating content involves both operational skills and an understanding of and ability to maneuver through information.

Hoffmann et al. (2015) emphasized that online participation and content creation, such as blogging or creating or editing a Wikipedia article, require a more extensive skill set than mere consumptive Internet uses. Creation literacy involves not only a technological aspect but also a social and a cultural aspect (Park 2012; Rheingold 2012; Chen et al. 2011). In addition to essential operational skills, participatory and expressive competency are required (Mihailidis & Thevenin 2013; Park 2012). One empirical study found that skillful users are indeed more likely to proactively create and share on the web (Hargittai & Shaw 2013). However, few people actually possess high level of creation literacy, although that is changing, with the rapid increase in the size of the Internet population (Blank 2013).

Some studies have included ethical aspects, related to privacy and personal data protection, and having respect for other users. This is crucial for contemporary digital life, as most individuals engage with others in society, express themselves, and deal with crowd-sourced content through mediated communication.

Ethics is closer to knowledge than to skills, and has been a core element of communication competence, but it has been overtaken by the significance of effectiveness and receded in importance. Li and Ranieri (2010) conceptualized digital competence

as having three domains: technological, cognitive, and ethical. They surveyed Chinese teenagers and found that these subjects' overall performance in the ethical realm was generally lacking. The concept of "netiquette" is frequently included in studies of digital media use in Korea (e.g., Park, Na & Kim 2014). Malicious comments, online hate speech against minorities, or cyber-bullying frequently turn up as serious social issues in Korea and China.

Stressing the multi-dimensionality of digital literacy, Eshet-Alkalai and Amichai-Hamburger (2004) conducted a performance-based study. They tested a model of digital literacy comprising photo-visual skills, reproduction skills, branching skills (constructing knowledge), information skills (evaluation of sources), and socio-emotional skills (understanding the rules and conventions of digital communication). The photo-visual skills and socio-emotional skills are most interesting. The results of their study indicate that younger people perform better than older ones in terms of the photo-visual and branching literacy tasks, while older people are better when it comes to reproduction and information literacy tasks. This effect of age on content-related skills is similar to the result found by van Deursen, van Dijk, and Peters (2011), but it is notable that younger individuals performed better when dealing with information presented in graphic forms. We can reasonably doubt that there may be a hidden bias embedded in most measurement tools adopted in the empirical studies in favor of the textual over the visual modality, or any other characteristics inherently favorable to the traditional media system.

5 Factors affecting media literacy

Based on the understanding of the conceptual root and key components of media literacy, the factors affecting the level of media literacy is summarized in the following.

5.1 Structural determinants

With regards to digital inequality, the focus of research has gradually shifted away from mere access to differential uses and skills, which have formed the basis for policy interventions concerning media literacy education (mostly for children and adolescents). Premature assumptions on the natural-born talent of "digital natives" were replaced by evidence showing that young people are not inherently skillful at using digital media, nor are such skills evenly distributed (Hargittai 2010; Li & Ranieri 2010). Such studies on the determinants of the level of media literacy and on how to develop it have contributed to a deeper understanding of the concept.

Critical scholars have consistently proposed that media literacy should be framed as a property of society, rather than as a matter of individual achievement, thus

challenging the skill-based approach. They stress that various kinds of resources – from financial or social to cultural capital – are required for capital-enhancing media use (DiMaggio, Hargittai, Celeste & Shafer 2004). Livingstone (2003) emphasizes that media literacy is something which is co-managed by users, institutions, and businesses. Evidence shows that, even after controlling for access and internet experience, factors of socio-economic status such as gender, education, and race account for the level of skills acquired (Hargittai 2010; van Deursen & van Dijk 2011). Skills and media use patterns are strongly related, and this reinforcing relationship exacerbates the level of digital inequality.

DiMaggio et al. (2004) distinguished among various internet uses, capital-enhancing versus recreational activities, and other studies have repeatedly found that socioeconomic status explains the kinds of activities people perform (Bonfadelli 2002; Hargittai & Hinnant 2008; Livingstone & Helsper 2007). Skill levels also determine how people use a medium (Hargittai & Hinnant 2008). Although the results are never unanimous, a particular relationship pattern between an individual's socio-economic background and the level of media literacy emerges. Younger populations have higher levels of operational skills (van Deursen & van Dijk 2011). The effect of education on a variety of skills is found with some consistency (Hargittai 2010; van Deursen & van Dijk 2011). Parental education (Gui & Argentin 2011; Kim 2011) and the fact of being male, in addition to the number of years of use and the time spent, are associated with a higher level of skills.

Van Deursen and van Dijk (2011) divided Internet skills into medium-related and content-related skills and showed, by actually testing performance on a set of assignments, how demographic factors and internet experiences affect each of them differently. While the level of operational and formal medium-related Internet skills appeared to be quite high, the level of information and strategic content-related Internet skills were relatively lower. Age did not affect both dimensions of Internet skills. Age even appeared to have a negative influence on medium-related skills. However, the older generations performed better than the younger when it came to locating and putting to use the information needed. (Gui & Argentin 2011; van Deursen, van Dijk & Peters 2011). The observed low level of content-related skills of young people indicates the vulnerability of the young to false or manipulated information (Eshet-Alkalai & Amichai-Hamburger 2004). This issue has been rather extensively discussed with regards to the “fake news” phenomenon.

5.2 Media literacy development

Some studies have examined the relationship between Internet use and digital skills and found that the intensity (Hargittai 2003) or frequency (Matzat & Sadowki 2012) of Internet use affects such skills. The level of Internet experience, the years of use, and the weekly time use increased the skills (Hargittai 2010). Matzat & Sadowski (2012)

conducted a longitudinal study and revealed that more frequent use of the Internet increases digital skills, but not the other way around. Similar results were found regarding social media, namely that higher skills did not predict the frequency of social media use (Correa 2016).

The positive mutual relationship between use and various literacies was supported for adults (Kraut, Kiesler, Boneva & Shklovski 2006), but not among children (Livinstone & Helsper 2010). Also, the learning-by-doing effect benefitted older users and Internet novices more (Matzat & Sadowski 2012).

According to a study conducted in Spain (Meneses & Mominó 2010), the influence of self-learning was even stronger than that of school for the development of digital skills. However, the effect of self-learning seems to have limits, confined to certain dimensions of literacy, since learning-by-doing does not appear to be as effective regarding content-related skills. While formal training and education programs contribute to Internet skills, a “trial-and-error” Internet experience only adds to medium-related skills, but not to content-related skills (Eshet-Alkalai & Chajut 2010; Van Dijk 2005). Van Deursen et al. (2011) arrived at similar results, indicating that operational skill literacy increased with the amount of time using the Internet, but information literacy did not improve over time. These results suggest that media literacy – especially regarding how to deal with information – is not enhanced by accumulated experience alone.

6 Research on the consequences of media literacy

Now why does it matter to obtain media literacy? What does it mean for individuals and society? Previous studies have established the effects of media literacy in various contexts.

6.1 Quantity and the quality of media use

For the past few decades, scholarly studies have sought to test the association between variables reflecting the quantity and quality of media use and their effects, social and psychological. On an individual level, media use was most commonly measured by the time or the frequency accessing the media. However, studies that included both media use time and literacy as independent variables have shown that it is how well, rather than how much, use of the media that matters (see for example Hargittai & Shaw 2015; Hargittai & Walejko 2008; Kim & Yang 2016a; 2016b).

In addition to socio-demographic factors, the level of media use skill is associated with a certain type of media use, so-called “capital-enhancing” use, such as informational and mobilizing activities (Correa 2016), participatory activities in

Wikipedia (Hargittai & Shaw 2015), political participation, material for career advancement, and seeking financial or health-related information (Hargittai & Hinnant 2008). Hargittai and Walejko (2008) have noted the importance of creating videos, music, writing, and artistic photography, as well as sharing such content online. They explored who the participants were, and found that creative activity is related to a person's socioeconomic status and that sharing online was related to gender, with men outperforming women. However, including the skill level of an Internet user caused the gender gap to disappear, thus showing the significant influence of media literacy. The gender gap, measured in terms of online content creation, was obliterated by the skills aspect (Correa 2010).

6.2 The effects on political participation and civic engagement

The move from a protectionist perspective to the empowerment perspective has been accompanied by more studies, which focus on the positive consequences of media use and literacy, such as civic participation, education, and personal empowerment (Hobbs 2011; Mihailidis 2009). Livingtone et al. (2008: 3) has proposed that there are three purposes of media literacy: first, enhancing democracy, political participation, and active citizenship; second, enhancing the knowledge economy, competitiveness, and personal, vocational, corporate and organizational empowerment; third, learning, cultural expression, and personal achievement.

One of the most popular topics for study has been the effects of Internet literacy on political participation and civic engagement (Hargittai & Shaw 2013; Kahne, Lee & Feezell 2012; Krueger 2002). The transition from dutiful citizenship to actualized citizenship is strongly related to the changing media environment and the ways that people use the media (Bennett, 2008; Hargittai & Shaw, 2013; Kim & Yang 2016a). People engage in a civic dialogue by creating, disseminating, and accepting individual expression and by deliberating and discussing news and public issues. The affordances of digital media contribute to such dialogues, which can take place any time, any where, and cover a diverse spectrum of issues. It is no coincidence that media effects used to be discussed in terms of their influence on electoral behaviors, but now in terms of their influence on civic engagement. Civic engagement refers to “involvement in the public sphere, incorporating participation in constitutional politics as well as less formally constituted activity” (Davies et al. 2012 , p293). Today's participation in political and civic affairs is more diffuse, diverse, expressive, and deliberative. Further, the opportunities for much broader participation have been especially seen in relation to children and adolescents as they go through the process of political socialization.

The association between an individual's Internet use and her level of civic engagement is mixed (Dimaggio, Hargittai, Neuman & Robinson 2001). It becomes positive or negative depending on *how* the Internet is used. Although the same type of content

can play a positive role by providing information, inspiring interest, and increasing participation, it may also increase disaffection, cynicism, and distrust (Hanson et al. 2010; Pinkleton, Austin & Fortman 1998). It is also well-known that some kinds of interactions give rise to a “filter bubble” or “echo-chamber” phenomenon.

Media literacy may be one factor that associates Internet use with beneficial results for both individuals and society. However, it is noteworthy that Internet literacy has a direct impact on participation, after controlling for socioeconomic or demographic factors (Min 2010), or individuals’ political interests (Borge & Cardenal 2011). Therefore, Internet literacy has been added to the list of already established determinants of civic participation, which also includes money, time, motivation, and civic skills. Under the rubric of digital citizenship, supporting the cultivation of Internet literacy may be regarded as a vital social task (Correia 2002; Correa 2009; Mihailidis & Thevenin 2013; Senkbeil, Ihme & Wittwer 2013; Simsek & Simsek 2013).

Studies model and test the differential effects of operational, information, and creation literacies. Recent research has shown that, among the other components comprising media literacy, information literacy is of particular importance (Kahne et al. 2012; Kim & Yang 2016a; 2016b). For example, Kim and Yang (2016a) found that the effect of Internet information literacy was both significant and strong in influencing the level of interest in political and social issues (controlling for demographics and media use), but that of operational literacy was not significant at all. On the other hand, online participation was strongly affected by the level of operational literacy. Such results exemplify the differential – and sometimes conflicting – influences of each component of media literacy.

Together with the findings revealing the disparity in the way medium-related and content-related skills are cultivated, a more targeted policy scheme can boost the level of media literacy. The level of information literacy often falls short of that of operational literacy (Gui & Argentin 2011; Kim & Yang 2016a Li & Ranieri 2010; van Deursen et al. 2011). While most information used to be preselected and processed by professionals before it becomes available to the audience in the traditional media environment, the responsibility for filtering through information falls mostly to individuals. A key point of media literacy is that individuals must be adept at critical information processing. Although one’s technical skills improve with increased Internet usage, information assessment skills do not improve over time (Eshet-Alkalai & Chajut 2010).

Those interested in civic participatory behaviors have studied content creation and sharing activities (Correa 2010; Hargittai & Walejko 2008; Bennett, Wells & Freelon 2009; Hoffmann et al. 2015). These are especially meaningful for the young, who are known for political apathy. The optimistic view prevails that the younger generation’s involvement online will lead to democratic participation and that creation literacy is considered an essential civic skill (Jenkins 2014). Despite the preceding discussions about the importance of creation literacy, this ability alone may not be enough to predict civic participation. In a way, active involvement in online activities,

exchanging messages, uploading and sharing photos and video clips, etc. may be no more than a reflection of the recreational culture of today's youth.

Given the nebulous of 'creation' activities, creation literacy, with a clear awareness of what kinds of information should be shared, and who will be the audience, is required to develop engagement in the public sphere. Kim & Yang (2016b) tested the role of creation literacy on civic engagement and found that creation literacy had a negative effect on civic engagement, after controlling for the other components of Internet literacy. Their data also showed that such a negative influence of creation literacy might be reduced if the level of information literacy is high. An interesting finding in Leung and Lee (2012) is that those who often became targets of online harassment or unwanted solicitations are generally literate in using production tools but lacking in understanding how information is socially situated and produced. A lower level of information literacy combined with a high level of creation literacy was associated with the vulnerability of the user. This finding tells us that researchers need to be aware that the components of media literacy do interact and operate in combination with one another.

6.3 Self-expressions

Online creation of messages is a powerful way to establish one's identity. Livingstone et al. (2008) have proposed a media education strategy to help young people identify activities they can participate in online to actively express themselves and make efforts to master media in order to be connected with others. Ahn et al. (2013) conceptualized the media literacy comprising technical ability, critical understanding, and expressive creation skills and found that among these three, expressive creation skills had a consistently positive influence on civic behaviors, while technical ability had a negative influence.

Previously unimagined opportunities for personal expression and communication do not come without a price. Being out of control in one's privacy behaviors can lead to a devastating experience which often results in the promulgation of unwanted private information, which goes beyond the boundaries of the expected audience (Litt & Hargittai 2014; Solove 2007). Current research has shown that general Internet skills are critical in explaining users' privacy behavior (Büchi, Just & Latzer 2017).

In Litt and Hargittai (2014), Internet skills were shown to exhibit a negative and significant relationship with online turbulence, and the authors emphasize that this effect is independent of several factors which govern privacy behaviors in general. The authors further suggest that those having a lower skill level are less careful about sharing or creating messages because they do not understand the nature of the technology nor their audience and are therefore less tactful in foreseeing and preempting the potential harm. Recent studies have also identified the components of digital

literacy which are specific to privacy behaviors (Park 2013), such as knowledge of institutional practices, the legal aspects of online data protection, and coping strategies for individual privacy regulation (Trepte et al. 2015). Bartsch and Dienlin (2016) conducted a mediation analysis showing that time spent in social media and experience with privacy regulation did not increase privacy behavior per se, stressing the importance of privacy literacy as a mediator to safe online behavior.

6.4 Balancing act

While many studies have focused on certain aspects of the effects of media literacy, such as civic participation or creation activities, Livingstone and Helsper (2010) explored whether media literacy makes a difference in the ability to take advantage of the benefits of online opportunities and, at the same time, curb online risks. They aptly pointed out that the research trend in which online opportunities and risks are examined and discussed separately, as if the two are unrelated, is problematic. Benefits and harms associated with media use are bound to be present at the same time.

They then conducted a path analysis to show the relationships among socioeconomic factors, Internet access, Internet use experience, media literacy (measured by skills and self-efficacy), and online opportunities and harms. Their final model showed that the skills, (but not the efficacy) indeed mediated the relationship between socioeconomic factors and access and online opportunities, and suggested that online opportunities, in turn, increased online risks. Although the study did not confirm that internet literacy plays double roles, increasing benefits while controlling risks, the results suggested that benefits and harms are closely associated and that media literacy affected the level of online opportunities. Another study, by Lee and Chae (2012), explored the mediation effect of internet literacy on the trade-off between children's online participation and risks. It found that media literacy indeed regulated the relationship between opportunities and harm: increases in participation for the high-skill group did not entail as many risks as it did for the low-skill group. Livingstone and Helsper (2010) suggested that future studies need to develop a more refined account of opportunities and risks.

7 Some directions for future research

Media literacy is conceptually located at the overlap of individuals and the mediated communication environment. To live in and through the media, people engage in personal negotiations of increasingly complex combinations of media and messages within a broad cultural context. Individuals can become a participant in a mediated world only when attaining a certain level of media literacy. As the boundaries

between sender-receiver and media-user are blurred, the significance of the media literacy concept becomes even more substantial.

Efforts to theorize the umbrella concept of media literacy are likely to continue. It may not be feasible to reach a universally agreed-upon definition, but attempts to elicit conceptually important dimensions that can be commonly applied to different media settings would certainly contribute to making the concept more theoretically solid. At the same time, with much of the published research on the use of various digital media platforms and services still emerging and taking shape, there is much more to explore. Reviewing the recent advances and the full spectrum of scholarly interests in the field offers some directions for future research.

Current research has moved beyond mere general claims that developing media literacy is associated with broad social participation. Particular media use activities are associated with media literacies. Moreover, the factors affecting media literacy and its consequences differ, depending upon the specific component of media literacy. Overall, there is a disparity between medium-related and content-related literacy regarding how they each develop and their effects. As a newer addition, creation literacy is emerging and opens various new possibilities of learning, personal development, and participation. However, some research findings suggest that the popular expectations for the potential of creation literacy and related activities have yet to be assessed and scrutinized.

In addition, exactly how the separate components of media literacy interact and support each other should be a key question for future research, given today's complex and convergent media and information environment (Livingstone & Helsper 2010). We may need to consider these components in combinations rather than regarding them as separate factors. Livingstone (2004, p3) has noted that the components of media literacy each "support the others as part of a non-linear, dynamic learning process." Content-related critical skills enable the users of these skills to create their own content, and the conduct of content creation encourages them to develop the necessary techniques further. Whether the balance among the dimensions would matter at all – and in what ways they would matter – are still other questions to be explored.

Especially notable from a policy standpoint is the research revealing the role media literacy plays in balancing the opportunities and the potential harm to users. Such an approach is particularly useful, as it overcomes the traditional division between the protectionist and empowerment views. For example, the ability to engage in self-expression and identity activities (Boyd 2014) is related to both the benefits and the potential harm of using social media platforms. Integrating research dealing with the associated patterns of opportunities and harms is a promising way forward (Livingstone & Helsper 2010)

The lag between what we experience and find in social scientific research is to some degree unavoidable, since media is in a state of constant flux. Moreover, as there is no social domain free from the influence of mediated communication, we can always point out what areas are lacking in current research. The most prominent

of these is the fact that the “media” in media literacy – about which much of the research is published – is still predominantly viewed as an informational rather than a communicative system. This, despite the fact that the convergence of the two has been ongoing for decades.

Future research work would benefit from giving further attention to the media as a venue for self-presentation, relationship maintenance, and community building. One may draw on works of communication competence. Users do not stop at being creators, but move on to being relationship initiators, connectors, collaborators, and facilitators. The uses of social media bring about and require new and different literacies. The current social media – such as Facebook, Tumblr, and Instagram, to name only a few – offer different technological affordances that enable certain types of media use behaviors. Future work may consider whether such differences in affordances lead to the acquisition of particular literacy skills. For example, among what Jenkins et al. (2006) suggested as vital literacy skills, those related to play, performance, collaboration, and negotiation have been much understudied.

Since it is the case that literacies are shaped by media use practices, researchers may need to be as careful to observe these actual practices as they are to refer to previous research as a starting point when they embark on a new research project. Activities related to computer and online games are a surprisingly understudied area, relative to the wide-spread prevalence of such activities. Studies conducted using qualitative methods provide a means of enriching our understanding of these practices.

In addition, what can be termed “visual literacy” is still another underdeveloped area for research, considering the quantity of visual content in the current media. As for the major benefits of increasing media literacy, the media user as a political and civic participant has occupied more research attention, compared to that of users being wise consumers or economic participants.

Media literacy studies based on the protectionist view have more work to do to keep up with the changes in media. Good examples of this would be the studies conducted on privacy behaviors (Bartsch & Dienlin 2016; Büchi et al. 2017; Park 2013). The risk in processing commercial content, which used to occupy a large part of traditional media literacy concerns, is even larger in the contemporary media environment. This can be seen in the forms of SPAM, native ads, or peer advice. Work on the ethical aspects which used to be a core part of communication competence can be drawn upon. When considering the issue of “access,” the ability to simply turn off and move away from media may be as important as the ability to gain access.

This chapter, with its necessarily limited amount of space, has not been able to cover the much more important issues of measurement and methodology. One recent study sought to employ social analytics tools in order to analyze user activities (Ahn 2013). Such an approach demonstrates the tremendous potential such a methodology has to reach a detailed and nuanced understanding of media use practices and skills. Such a development may retain the strengths which come from the use of both large-scale surveys and performance tests that have long posed researchers an either-or choice.

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31 Media and Social Movements

Abstract: This chapter provides a brief overview of the historical connection between media and social movements, illustrating their symbiotic relationship. Noting that mainstream news media have historically had the power to validate or undermine social movements, it traces the role of alternative media in promoting marginalized political perspectives and inspiring individuals to see themselves as part of a collective that shares similar experiences and grievances. Historical examples of alternative media are discussed, from subversive grassroots pamphlets of the American Revolution to abolitionist, labor, and suffrage periodicals, to pirate radio, zines and public access cable TV. Ritual communication and public art are also noted as important but often overlooked forms of alternative media that have inspired and sustained social movements.

With the advent of digital media, twenty-first century activists now interact directly with the public via social networking technologies. Noting the pro's and con's of these technologies for social movements, the chapter reviews recent research on digital media, participatory politics and connective action. It concludes by observing that while digital media have dramatically reshaped the landscape for social movements, they have not erased the importance of mainstream media in legitimizing a movement's goals and actors, nor eliminated the need for long-term, face-to-face political organizing work.

Keywords: political communication, social movements, alternative media, activism, framing, citizenship, civic engagement, counterpublics, participatory politics, digital media, connective action, marginalized voices, community media, Internet

1 Media and movements: A symbiotic relationship

As sociologist Todd Gitlin observed, media and social movements need each other. On one hand, social movements provide “good copy” for media outlets whose very survival depends on conveying dramatic stories. On the other, media have the power to validate or undermine social movements, whose adversarial character towards the establishment diminishes their ability to be seen as legitimate political actors. Mass media can define a social movement's public significance and attract sympathizers or can deprive social movements of significance by underreporting and misreporting movement activities (Gitlin 1980). This symbiotic and sometimes antagonistic relationship reflects a larger ongoing struggle, noted by sociologist Herbert Gans: “In any modern society in which a number of classes, ethnic and religious groups, age groups, and political interests struggle among each other for control over the society's

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resources, there is also a struggle for the power to determine or influence the society's values, myths, symbols and information" (Gans 1972: 373).

Besides relying on the mass media to help mobilize political support and validate movement perspectives in the mainstream, social movements have also relied on them to broaden the scope of the conflict and the sphere of public debate (Gamson & Wolfsfeld 1993; Hallin 1994). In order to better understand the relationship between media and social movements, it is important to define what we mean by a "social movement." Many sociologists rely on the definition put forth by Sydney Tarrow, one of the best-known scholars of social movements, who has studied them since the 1960s. Focusing on the contentious power dynamics between political "insiders" who hold institutional power (politicians, government or corporate officials, security forces) and political "outsiders" (ordinary citizens), Tarrow defines social movements as: "collective challenges [to authorities or other powerful groups] based on common purposes and social solidarities, in sustained interaction with elites, opponents, and authorities" (Tarrow 1998: 4).

The *collective* aspect of this definition is crucial, since one individual, no matter how charismatic, cannot sustain a social movement. Social movements require large numbers of people who have common goals and a collective sense of solidarity and identity based on shared experiences or values. These groups *challenge* powerful authorities such as governments or corporations, which they feel are responsible for their grievances, or able to address them (Kolb 2007: 5). The next key term in this definition is *sustained*, since a one-time or short-term protest action does not equal a movement. As exemplified in social movements for labor rights, civil rights, women rights or environmental rights, achieving meaningful social change requires many years of sustained activism. Finally, this sustained struggle to change the status quo takes place among ordinary citizens (those directly affected by a particular grievance, and their allies) "interacting with elites, opponents, and authorities" via tactical repertoires such as political meetings, letter-writing, protest events, advocacy work, and lawsuits aimed at changing social structures and public policies (Massey 2012). A social movement emerges when there is a perceived need for social change *and* when the opportunity exists for the general public to express their protest. Consequently, in undemocratic countries where there is excessive repression and citizen surveillance, opportunities for public protest are often not available.

Two predominant groups have studied the topic of social movements and media: 1) political communication scholars interested in institutional politics and elections, and 2) social movement scholars focused on the non-institutional and contentious side of politics. The power imbalance between institutional actors and non-institutional activists has had implications for mass media coverage of social movements (Gamson & Wolfsfeld 1993; Ryan 1991). Since politicians and government officials have a strong institutional power base, journalists habitually consider them to be "newsworthy." By contrast, in their "challenger" role as political outsiders, movement activists lack

an institutional power base and have to work harder to receive media attention. Thus, they get attention for their cause by staging public protests and other dramatic events meant to mobilize people and influence public opinion (Vliegthart & Walgrave 2012). Recognizing the insider/outsider dynamic between social movements and powerful institutions allows us to better understand the power that the mass media have historically had in 1) raising public awareness of a movement; 2) promoting a sense of collective experience and/or moral responsibility that encourages sympathy for a movement; 3) legitimizing movement demands; and 4) keeping a movement in the public eye for sustained periods of time.

Many scholars of social movements have pointed out that within capitalist societies, social movement activists, by being ordinary “everyday” people, have much less access to space, staff, financial resources, media attention, and political power than do corporate or government entities that can afford to hire researchers, lawyers, and public relations firms to promote and defend their messages. As Todd Wolfson (2014) notes, unlike corporations, social movements do not sell products that generate profits, nor do they have the privileged access to lawmakers or government agencies that corporations and government officials do. Most activists work full-time jobs to survive, which limits the time and energy they are able to devote to politics. While this has always been the case, neoliberal conditions of growing economic precarity and diminishing social safety nets (i.e. health care, pensions, social security benefits), make it even harder for ordinary citizens to find the time to do activist work (Wolfson 2014).

Until the advent of the Internet, most social movement scholars focused on traditional mass media such as radio, television, newspapers, magazines, books, recordings, and films. These media carried movement ideas to broad audiences, helped activists recruit members, provided members with leverage in policy debates, and helped mobilize publics. They also influenced how political elites responded to social movements and protests (Wisler & Giugni 1999; Knight 2001). News media, in particular, were the subject of most research on media and social movements because they had the “agenda setting” power to decide which events and social problems were relevant to the public and how a movement would be framed. “Framing” refers to the placing of events within specific fields of meaning that can legitimize or delegitimize a social movement’s actions and claims (Gamson 1992; Goffman 1974; Ryan 1991).

2 News framing of social movements

Historically, while social movement activists could create their own press releases and attempt to cultivate positive relationships with journalists in efforts to garner favorable news coverage for their cause, they were at the mercy of the mainstream news media regarding how their movements were framed. Gitlin (1980) argued that the liberal media in the U.S. have quietly invoked a need for reform on certain social

issues while disparaging movements that radically oppose the status quo system. He noted that social movements have been disparaged via common news framing devices such as *trivialization* (making light of movement participants' language, age, or style of dress); *polarization* (providing equal emphasis to much smaller counter-demonstrations); *marginalization* (portraying demonstrators as deviant, violent, or unrepresentative of ordinary citizens); *undercounting* numbers of protesters; *emphasis on internal dissension* (focusing on infighting within a movement rather than on its goals); and *disparagement of a movement's effectiveness* (27). He and other scholars have shown that while media coverage can help publicize a social movement, it can also be devastating in a number of ways including: attracting new members who may not share the original organizers' goals or values (Gitlin 1980; Porto & Brant 2015); portraying activists' claims as unreasonable (Knight 2001); or framing social movements within a "nuisance paradigm" that depicts protesters as bothersome, ineffective, and unpatriotic (Di Cicco 2010).

3 Alternative media

Less studied within the discipline of Communication are alternative media, a blanket term that can include non-profit community media as well as non-corporate alternative lifestyle magazines, independent publishers, small presses of poetry and other media formats that counter the dominant messages of the mainstream media. Chris Atton (2002) notes that the primary aim of alternative media is social and political action that strives for a more equitable social, cultural, and economic whole. While mainstream media in the U.S. have historically engaged in vertical or "top down" communication that privileges the perspectives of the most powerful actors in society (such as government leaders and economic elites upon whom these media depend for financing), alternative media have sought to share information in ways that create horizontal links among citizens for their empowerment. Through alternative media, marginalized political perspectives are prioritized over the viewpoints of the most powerful individuals and institutions in society (Atton 2002; Eyerman & Jamison 1998; Howley 2005; Love & Mattern 2013). John Downing notes that alternative media "provide an alternative public forum – sometimes referred to as the 'public sphere' or 'public realm' to the official forum and the official story" (Downing et al.1995: 250).

Under the umbrella of alternative media fall community-based, not-for-profit media that are created and/or controlled by a geographic, cultural, religious, or linguistic community. These include community newspapers, community TV stations, and community radio that have a history of supporting radical movements for social change. Kevin Howley (2005: 2) defines community media as "grassroots or locally oriented media initiatives predicated on a profound sense of dissatisfaction with mainstream media form and content, dedicated to the principles of free expression

and participatory democracy, and committed to enhancing community relations and promoting community solidarity.” Described as “grassroots,” “radical,” “home-grown,” “independent,” “non-commercial,” or “participatory,” these media typically emphasize creativity, community involvement, and participatory processes, providing opportunities for community activists to share success stories and strategies (Hamilton 2000; Pickard 2007). Expressing a population’s identity and collectively-felt injustices with the goal of promoting social change, alternative media formats also include zines (Duncombe 1997), public murals (Sperling Cockcroft & Barnet-Sanchez 1990), street processions and street theater (Broyles-González 1994; Davis 1986), poetry slams (Hoffman 2001; Somers-Willett 2009), graffiti (Chaffee 1993), posters (Noriega 2001); storytelling (Cohen-Cruz 2006), public art (Lipsitz 2001; Love & Mattern 2013), culture jamming (Harold 2004), video projects (Atton 2002), and music (Garafalo 1992; Mattern 1998). Public rituals are another grassroots media form used for political expression and the advancement of social movements (Rothenbuhler 1998), such as Day of the Dead public altar installations created by Chicano Movement activists to draw attention to racism, labor abuses, and human rights violations (Marchi 2009a); the traditional “dancing” of hand-made masks in Mexico to critique political leaders and government policies (Schlossberg 2015); and spontaneous public shrines that honor deceased victims of socio-political violence (Santino et al. 2006).

Such community-based media may not immediately come to mind for Communication scholars because our notions of “media” are heavily biased towards print, broadcast, and digital technologies. Yet all the above media provide important spaces “to generate historical memories and analyses, nurture alternative visions for the future, and contest dominant representations and definitions of reality” (Kidd 1999: 116). Moreover, they encourage a rethinking of traditional assumptions regarding the formulation of the public sphere and the definition of political communication.

4 Historical examples of media, community-building, and social movements

The precursor of any effective social movement is the consciousness-raising and solidarity-building work that takes place long before a social movement materializes. Communication theorist James Carey observed that the knowledge and consciousness people need to act politically can develop “only by divesting life of its mundane trappings and exposing our common sense or scientific assumptions to an ironic light that makes the phenomenon strange” (Carey 1988: 25). Critiquing the dominant “transmission model” of communication that narrowly views communication as an “extension of messages across geography for the purposes of control,” Carey advocated for a “ritual” view of communication, in which social identities are symbolically constructed and reinforced while engaging the intellectual, spiritual, and/or physical

participation of the public (Carey 1989). He emphasized the roots of the word “communication” in terms such as “commonality,” “communion,” and “community,” arguing that the “publics” that are so crucial for democratic participation can only be created via communication that emphasizes *collective* experiences. As the following historical examples illustrate, alternative media have played a key role in this process.

Looking back on history, the United States began with a social movement: American colonists sought independence from an oppressive and unaccountable monarch who taxed them without representation. The colonial mainstream media at the time were pro-British, and anyone caught talking about rebellion could be hanged for treason. Leading up to the American Revolution, underground newspapers and pamphlets were secretly printed and distributed, passed along surreptitiously from person to person after each use. Thomas Paine’s 1776 pamphlet *Common Sense*, which condemned the “race of kings” and “the absurdity and evil of hereditary succession” and encouraged colonists to rise up against “the Royal Brute of Great Britain,” was widely circulated (Downing 1995: 242). Tom Paine, Benjamin Franklin, Samuel Adams, John Adams and other founders of the new nation relied on alternative media to critique the government and advocate for radical social change.

Throughout U.S. history, alternative media coverage of topics deemed “unthinkable” for discussion in the mainstream press has inspired the formation of numerous social movements. For example, in the 1800s, working class, ethnic, and labor newspapers contradicted the pro-business narratives of the mainstream press by writing about exploitative labor practices, wage theft, and inhumane working conditions. Through reading such publications as *The Mechanic’s Free Press* (1828–1831), *The Working Man’s Advocate* (1829–1930), and *The Jewish Daily Forward* (1897–present), individual workers recognized their collective plight, saw themselves as part of a larger community of people experiencing similar exploitation, and were inspired to organize for a better life. In these and many other alternative newspapers, workers could read and debate critiques of capitalism from socialist, Marxist, and anarchist philosophers whose messages were absent in the mainstream media.

Broadening perspectives on social and political issues beyond the limited political range found in the mainstream media, these publications encouraged workers to consider the larger socio-political structures responsible for creating intersecting forms of oppression. As John Downing notes, they “pointed out the interconnections between exploitation in the workplace and slum housing, between industrial accidents and poor health care, between factory discipline and the police force” (Downing 1995: 243). A growing awareness of the nature of social injustice eventually sparked social movements that established public education, public health services, public parks, public regulatory agencies, improved labor conditions (including an end to child labor), police department reform, and investigations into political and corporate corruption.

Independent abolitionist publications such as *The North Star* (1847–1851), published by Frederick Douglass, and *The Liberator* (1831–1865), published by William

Lloyd Garrison, urged an end to slavery and connected like-minded people to the collective goal of abolition. Similarly, alternative newspapers such as *The Lily* (1849–1853), published by Amelia Bloomer, *The Revolution* (1868–1872), founded by Elizabeth Cady Stanton and Susan B. Anthony, and *The Suffragist* (1913–1920), published by the National Women’s Party, advocated voting and other civil rights for women, inspiring and sustaining the early feminist movement.

In Algeria, Tunisia, Morocco and other countries engaged in twentieth century anti-colonial struggles, illegal “pirate” radio stations kept citizens informed about rebel resistance forces – information that was banned in the national news media because of the threat it represented to colonial governments (Fanon 1959). In Cuba, El Salvador, Nicaragua, and other Latin American countries, non-commercial shortwave radio, which could inexpensively transmit over entire continents, was the only way for citizens to get information about revolutionary movements from the 1950s to early 2000s (Barlow 1990; Darling 2007). Community radio in Indigenous areas of Latin America continue to provide alternative health information unavailable on commercial stations, providing a forum for contesting traditional gender roles and supporting incipient movements for women’s rights (McKinley & Jensen 2003).

In the U.S., low-power and pirate “micro” radio stations in low-income rural and urban areas have transmitted information to underserved communities, helping them to organize politically (Dunbar-Hester 2014; Marchi 2009b). One of the first and best known pirate radio stations in the U.S. was Zoom Black Liberation Radio, which operated from a low-income housing project in Springfield, Illinois. The station broadcast commentary on issues ignored in the mainstream press, such as police brutality against the city’s Black residents, tenants’ rights information, and traffic safety issues. In a community with high rates of functional illiteracy and strong oral storytelling traditions, Zoom stimulated political activism on topics ranging from housing code violations to political corruption (Coyer, Downumt & Fountain 2007; Sakolsky 1992).

In all these cases, alternative media provided a space to question hegemonic ideologies. Community newspapers, community, pirate, and shortwave radio, public access cable television (such as Paper Tiger TV),¹ and newer online formats such as blogs, podcasts, and multi-media electronic presentations, have been instrumental in raising consciousness about injustices and contesting dominant political policies such as discrimination, war, colonialism, police brutality, economic exploitation, U.S. cultural imperialism, and military intervention. This consciousness-raising is an indispensable first step in the contentious, risky and often dangerous process of organizing for socio-political change, and the social movements discussed above were the precursors to twenty-first century activism such as Occupy Wall Street,

1 To learn about Paper Tiger TV, see DeeDee Halleck. 1984. Paper Tiger television: Smashing the myths of the information industry every week on public access cable. *Media, Culture & Society* 6(3). 313–318.

#BlackLivesMatter, the fight for marriage equality, women's equality, immigrant rights, digital rights, and more.

However, mainstream and alternative media are not always opposed to each other, and can sometimes work in conjunction. For example, in the early twentieth century, popular songs broadcast on commercial radio throughout the American South discussed the lives of southern textile workers, not only creating a sense of collective identity (Huber 2008) but also expressing the low wages and dangerous labor conditions workers faced, connecting the root causes of these problems to exploitative companies. This music, together with the "Fireside Chats" broadcast nationally on mainstream radio by President Franklin Roosevelt (in which he expressed support for industrial workers), helped mobilize textile worker strikes for better labor conditions in the 1920s and 1930s (Roscigno & Danaher 2001).

In mainstream, for-profit magazines, newspapers, and books, journalists have published critical exposes that helped launch national and global social movements. For example, Upton Sinclair's *The Jungle* (1906), an exposé of abysmal labor and sanitation conditions in the U.S. meat packing industry at the turn of the twentieth century, was first published in 1905 in installments in the alternative (socialist) newspaper *Appeal to Reason*, which supported Sinclair's undercover investigation. But, a year later, the novel was published by Doubleday Books (one of the largest book publishers in the U.S. at the time), becoming a national bestseller that launched the food safety movement. Ralph Nader's 1965 best-selling book, *Unsafe at Any Speed*, which exposed the reluctance of U.S. car manufacturers to spend money on safety features, helped launch the consumer protection movement. Rachel Carson's *Silent Spring*, a book about the devastating effects of pesticides on plants and humans, was published in 1962 by the mainstream publishing house, Houghton-Mifflin, and became a best-seller that inspired the birth of the U.S. environmental movement.

Still, since most critiques of the powerful are not economically or politically advantageous, alternative, rather than commercial, media have historically been the leading avenues for the unfettered expression of information that is absent or marginalized in mainstream media discourse, whether for financial, political, or ideological reasons. Alternative media inspires individuals – especially those who are underrepresented and misrepresented in the mainstream – to see themselves as part of a *collective* body that shares similar experiences and grievances, a first step towards becoming politically active.

5 Social movements in the Internet age

Before the advent of the Internet, good or bad media coverage could make or break a social movement. While "old" media still play an important role in raising the profile of and legitimizing social movements (Banaji & Buckingham 2013; Vliegenthart & Walgrave

2012), activists in the twenty-first century do not depend as heavily on mass media, since they can now interact directly with the public via social networking technologies. For example, the use of Meetup.com, Facebook, and Twitter in Democratic Party organizing helped relatively obscure “long shot” presidential candidates, such as Howard Dean in 2004, Barrack Obama in 2008, and Bernie Sanders in 2016, gain national prominence. Moreover, citizens are now using digital media to hold elite institutions and leaders accountable in ways that were difficult to do in earlier times (Armstrong & Zuniga 2006).

Contemporary digital media offer functions that are vital to social movements, such as fundraising, training, and recruitment. Indeed, they provide the very organizational structures of movements, including decentralized campaign networks, interactive calendars and discussion forums, and the crowdsourcing of ideas or services in ways that connect diverse and geographically dispersed activists (Bennett & Segerberg 2013; Tarrow 2011). In the process, digital media have diminished the relative importance of local and national offline offices as bases for activism, while increasing the advantages of resource-poor organizations and improving transnational activist collaboration (Bennett 2003).

However, the fact that digital technologies have been effective in quickly publicizing political struggles around the world has led to overly facile perceptions that the Internet has made social movements more powerful. Many people have heralded the emancipatory power of networked communication technologies, an enthusiasm perhaps best expressed in Clay Shirky’s *Here Comes Everybody* (2008). Shirky contends that the innate desire of humans to socialize and cooperate has resulted in the wide-scale adoption of digital technologies to organize for change. These digital tools, he argues, provide a non-institutional platform for groups to organize with minimal risk, simultaneously negating the advantages of money, technology, and staff that state and corporate actors have traditionally held. This is giving voice to people who previously had little or no power in official political channels, such as individuals who cannot vote because of their age or citizenship status (i.e., high school students or undocumented immigrants). While Shirky highlights the exciting potentials of digital media in political organizing work, his conception of “Everybody” leaves out those individuals lacking access to digital technologies, such as many senior citizens and low-income, illiterate, and other populations who live largely or entirely offline (Brabazon 2008).

Despite billions of people around the world owning cell phones, digital inequality remains significant. About a third of the world’s population lack cell phones and only about 40% of the global population have Internet access (Internet World Stats 2016). This inequality, shaped by existing structural inequalities of class, race, and gender, is replicated within the online activities of social movements. Research on Occupy Wall Street (Costanza-Chock 2012), Arab Spring (Howard & Hussain 2011), the 2013 Brazil protests (Porto & Brant 2015), and other movements illustrate this. Therefore, Costanza-Chock (2011) argues for the importance of cross platform or “transmedia” mobilization to engage the social base of movements in a variety of participatory media-making practices across multiple “old” and “new” media platforms.

Others have argued that the impact of digital media on social movement effectiveness has been exaggerated. This position is most notably expressed by Malcolm Gladwell (2010) in the *New Yorker* article “Why the Revolution will not be Tweeted.” Using the U.S. civil rights movement of the 1960s as an example, Gladwell argues that effective social movements depend on “strong ties.” Strong ties involve the trust and affection that is developed over extended periods of face-to-face contact, in which people are willing to engage in high risk – even life threatening – protest activities because of the strong personal connections they feel for fellow activists. In contrast, he argues, online activism is based on “weak ties” of people who typically have never met and feel little sense of mutual responsibility or obligation. Gladwell contends that while the numbers of social movement participants today *appear* to be higher than in the past, as thousands of people can converge for a protest in a matter of minutes thanks to Facebook and Twitter, the weak ties that work well for convincing people to participate in one-shot activities like a protest are the exact opposite of what is needed to carry out sustained political organizing work. He states: “Social networks are effective at increasing participation – by lessening the level of motivation that participation requires.” He further argues that both hierarchical organization and a clear leadership structure – things typically absent from online social movements – are necessary for a movement’s success, given that effective movements must be able to endure over a period of years, requiring dedicated long-term, well-organized leadership.

While horizontal, rather than hierarchical organizing structures have been the emblem of social movements in the Internet era, Todd Wolfson draws our attention to the ways in which an infatuation with the Internet by many social movement theorists neglects the power structures and uneven resources that radical protest movements face in capitalist societies. Critical of the “logic of horizontality” among the “Cyber Left,” a term Wolfson coined to refer to the creative use of new media and social networks by progressive activists, he argues that horizontally-organized movements and institutions “have weak organizational structures with little collective decision-making power because they have dismissed, a priori, centralized power and structures of accountability and leadership of any kind” (Wolfson 2014: 24). A lack of powerful leadership, he argues, impedes effective collective action.

Still others, such as Evgeny Morozov (2011), reject the liberatory claims of digital media enthusiasts on the grounds that authoritarian states are using the Internet as a powerful tool for the surveillance and repression of dissident activists, as well as for the dissemination of nationalist and extremist propaganda. While digital technologies are associated with progressive politics, he notes, ultra conservatives, neo-Nazis, and fascists are also adeptly utilizing them.

Numerous studies have shown that the Internet has the potential to both strengthen and weaken practices of democratic expression and civic engagement (Allen & Light 2015; Gerbaudo 2012; Papacharissi 2014; Wolfson 2014). It is also important to remember that many political events and actions portrayed via social media as “movements” do not meet the definition of a social movement, particularly in that

they are not sustained over time. They are simply outbursts of collective behavior done by people with no long-term commitment to a cause (Carty 2015).

6 Participatory politics

A major focus of research regarding the Internet's impact on social movements concerns the ways the Internet has broadened definitions of civics and citizenship. In the twenty-first century, notions of political activism have extended beyond the electoral focus or political party affiliations that used to dominate discussions of political activism (Bennett 2008; Kahne, Middaugh & Allen 2014; Zukin et al. 2006). Today's political activism ranges from traditional activities such as voting, protest marches, boycotting, volunteering, or circulating political petitions, to lifestyle politics, digital sharing of files and links, or online petitioning of music, movie, television, gaming or other companies. Recent research has pointed to the ways that participants in playful online communities or "participatory cultures" (such as gaming sites or fan sites) can develop the "civic imagination" useful for engaging in offline politics and meaningful social change (Jenkins et al. 2016; Kligler-Vilenchik 2016). Moreover, young people increasingly use the online sharing of photos, news stories, videos and other "artifacts of engagement" to express solidarity and bring into being the publics or counterpublics necessary for collective political action (Clark & Marchi 2017).

The term "participatory politics" is influenced by the concept of "participatory culture," which specifies that online participation is significantly peer-based, interactive, non-hierarchical, social, and independent of elite institutions (Jenkins et al. 2009). Influenced by research on participatory culture, Cathy Cohen and her colleagues developed the term "participatory politics" to describe how younger generations engage in politics online in ways that have changed the relationship of ordinary citizens to institutions and elites (Cohen et al. 2012). Examples of participatory political acts include starting a new political group online, writing and disseminating a blog post about a political issue, forwarding a funny political video to one's social network, or participating in a poetry slam. Participatory politics allows individuals to operate with greater independence in the political realm, circumventing the traditional gatekeepers of information and influence, such as newspaper editors, political parties, and political interest groups.

In institutional or elite-driven politics, highly organized groups such as political parties, mainstream media companies, non-profit organizations, lobbyists, and special interest groups historically drove the national political conversation about which issues deserved attention, what actions should be taken, and how citizens could be mobilized. There were limited options for average citizens to express their political views, which included calling, visiting or sending a letter to an elected official, or, if one were lucky, getting a letter to the editor published. Now there are

myriad ways outside of institutional contexts for ordinary people to share political information and opinions and to organize actions.

Ethan Zuckerman uses the term “participatory civics” to refer to new forms of civic engagement that use digital media in ways that allow people to see their impact on issues they care about. Rather than seeing “thick” and “thin” engagement or “strong” and “weak” ties as binary categories, Zuckerman (2014: 159) argues that they are on a continuum and that digital technologies allow people to participate in “instrumental engagement” that targets a specific social change goal that is important to them.

Inherent in much research about online participation is a focus on how the Internet and social media allow people to have a voice (Allen & Light 2015; Clark & Marchi 2017; Couldry 2010; Crawford 2009), sharing personal experiences and perspectives online that help isolated individuals to identify and affiliate with a collective cause. As Zuckerman notes, “Voice begets voice ... when other people talk about a controversial issue, it’s easier to share your voice ... as a member of a marginalized group or an ally” (Zuckerman 2014: 163).

7 Connective action

Today, people are not limited to the Informed Citizen model, in which citizens are expected to be widely informed on a broad range of political issues, or the Monitorial Citizen model, in which citizens intermittently monitor the political landscape, keeping just enough informed to recognize danger and act when needed (Schudson 1998). Rather than being motivated by a sense of obligation, duty, or loyalties to specific political parties or philosophies, contemporary citizen involvement in political issues (especially among younger citizens) is inspired by what they feel passionate about (Bennett 2008; Papacharisi 2014; Clark & Marchi 2017).

Lance Bennett’s (2008) work on the “self-actualizing citizen” notes that young people in the early twenty-first century do not abide by the “dutiful citizenship” model of older generations, in which people felt a “duty” to follow the news, vote, and become involved in political party activities or civil society organizations. Instead, the experience of self-actualizing citizenship is marked by a diminished sense of government obligation; higher sense of individual purpose; more personally defined acts such as consumerism, volunteering, or transnational activism; lower rates of voting; and a mistrust of media and politicians, reinforced by a negative mass media environment (Bennett 2008: 14). He explains that this model of citizenship favors loose networks of community action – often established or sustained through friendships and peer relations and thin social ties maintained by interactive information technologies.

Bennett’s research and his work with Alexandra Segerberg have contributed significantly to contemporary discussions about the connections between online information-sharing and democracy by revealing the ways that digital media expand

possibilities for political organization and action. Bennett and Segerberg (2013) discuss the emergence of what they term *connective action* – a form of political action in which networked communication enables individuals to personalize expressions of a social movement’s goals outside of the bounds of traditional social movement organizations. Contrasting *connective* action with the pre-Internet logic of *collective* action (associated with high levels of organizational resources and the formation of collective identities), the authors note that the logic of connective action is based on personalized content sharing across media networks. Social network technologies enable people to personalize their connections, choosing both what kinds of information they will share with those in their networks and how they will share that information. This research brings to the forefront the ways that online communicative acts constitute relationships between people that are vital in organizing for political change.

Zizi Papacharissi’s research on the role of emotion in politics shares some common ground with Bennett and Segerberg’s argument that social media have brought about possibilities for connective action. She asserts that social media provide new locations through which people can express themselves and participate in publics and counterpublics that help them feel that their views *matter*. “Affective publics,” as Papacharissi terms them, are “networked public formations that are mobilized and connected or disconnected through expressions of sentiment” (Papacharissi 2014: 125). She notes a two-part progression: first, we *feel* like we’re a part of the developing story, and second, as we contribute our own emotive declarations online through words, photos, and videos on social media venues, we *become* a part of the story. Papacharissi connects current debates about social media’s ability to facilitate feelings of belonging with debates about political engagement, helping to explain how people “feel their way into politics” (Papacharissi 2014: 25).

Influenced by both Papacharissi’s research on affective publics and Bennett and Segerberg’s theory of connective action, the concept of *connective journalism* refers to the ways that communicating stories, personal experiences, and opinions via social media to express one’s identity can also create communities of like-minded individuals who organize for social change (Clark & Marchi 2017). Practices of connective journalism hinge on the role of emotion in suturing people into a collective identity. Connective journalism draws attention to a continuum of online communicative actions to better understand how people move from first considering whether to express themselves at *all*, to sharing meaningful stories and artifacts online, and finally to involving themselves in the more arduous work of political organizing.

8 Concluding thoughts

While digital media technologies have dramatically reshaped the relationship between social movements and media, particularly regarding the organizational

structures of movements and movement organizers' ability to communicate directly with the public, they have not erased the importance of mainstream media coverage, which still plays a key role in legitimizing and popularizing a movement's goals and actors. Nor have digital technologies eliminated the need for long-term, face-to-face organizing work. Online activism is best seen not as a replacement for but rather a compliment to on-the-ground social movement organizing work (Carty 2015; Tarrow 2011). As Tarrow points out, the dilemma of hierarchical social movement organizations is that if they permanently internalize their bases into organizations, they lose their capacity for disruption, yet if they become too decentralized, they lack the infrastructure necessary to maintain sustained interactions with allies and opponents (Tarrow 2011: 138). The challenge facing contemporary movement organizers is to find the right balance between centralized and decentralized structures and between digital and face-to-face engagement.

In the twenty-first century, social movement activists around the globe are experimenting with hybrid combinations of protest, combining traditional media formats with face-to-face and electronic mobilization in domestic and transnational actions. Civic engagement in concrete actions such as voting, volunteering, or actively organizing a social movement must be preceded by consciousness-raising processes that create the foundation for more elaborate political action. Media, old and new, have always played a crucial role in this work and will continue to do so.

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32 Big Data

Abstract: Big data refers to new types of large data sets, often collected through online platforms, as well as respective analytic techniques such as large-scale network analysis or exploration of data patterns. It has brought about a discussion of the role of theory in social science research, with some questioning the need for theory in the age of big data. In spite of the ensuing debate about the value of big data research, respective studies are conducted in many academic and applied fields. This brings about methodological issues with regard to data collection, data analysis, and the interpretation of data. The chapter provides a brief introduction to what big data research is and how it arrived in communication science. Theoretical and methodological implications of the phenomenon are discussed, before giving an outlook that relates big data to neighboring concepts to allow a broader assessment of its place within the discipline.

Keywords: big data, methodology, epistemology, end of theory, data collection, data analysis, data interpretation, digital methods, computational social science

1 Introduction

The traditional methodological approaches to mediated communication (see part II of this volume) developed alongside techniques applied in sociology, psychology, market research, and cultural anthropology. Yet in recent years, these approaches have been increasingly complemented by methods from neighbors a bit further down the road, namely information science and computer science, but also physics and other natural sciences. Of particular interest has been the phenomenon of “big data.” In commercial research, some claim that it allows radically new insights into consumer behavior (e.g., Russom 2011). Mayer-Schönberger and Cukier (2013) called it no less than “a revolution that will transform how we live, work and think.”

The discussion about big data in the social sciences and communication science in particular is more nuanced, and considerable concerns about respective approaches have been expressed. Nevertheless, the literature of these fields now contains many studies that apply a range of big data-related techniques, and more are added every year. This chapter provides a brief introduction to what big data research is and how it arrived in communication science. Theoretical and methodological implications of the phenomenon are discussed, before giving an outlook that relates big data to neighboring concepts to allow a broader assessment of its place within the discipline.

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2 The arrival of big data in communication science

The term “big data” originated in computer science, where it was introduced to denote data sets too large to be handled by standard hardware or software (Manovich 2012). A broader discussion of the phenomenon set in around 2011, both in the academy and the business world (Burrows & Savage 2014; Puschmann & Burgess 2014). The actual size of “big” data sets increased over time, as technology afforded more computing power to collect, store, process, and analyze data. At the same time, the availability of new sources for large amounts of data as well as research making use of these data sets expanded the understanding of what the term refers to. Following Kitchin’s (2013: 262) summary of the most pertinent definitions, big data have the following qualities:

huge in *volume*, consisting of terabytes or petabytes of data;
 high in *velocity*, being created in or near real time;
 diverse in *variety*, being structured and unstructured in nature;
exhaustive in scope, striving to capture entire populations or systems;
 fine-grained in *resolution*, aiming to be as detailed as possible, and uniquely *indexical* in identification;
relational in nature, containing common fields that enable the conjoining of different data sets and
flexible, holding the traits of extensionality (can add new fields easily) and scalability (can expand in size rapidly).

Due to the variety and relational nature of big data, they have also been described as “messy” (Mayer-Schönberger & Cukier 2013: 32–45). Respective data sets may, for instance, contain incomplete information and large numbers of errors or fail to perfectly align data points because parts of the data stem from different sources. (An illustration of this problem for the longitudinal collection of blog popularity is provided by Karpf 2012.) In addition to the sheer amount of information to deal with, these characteristics of big data pose challenges for traditional computing techniques.

In a sense, communication science has applied analyses of big data for decades. People meters, for instance, record television viewing behavior of individuals in thousands of households exactly to the second, creating large amounts of fine-grained, real-time data every day (Ksiazek, this volume). These are typically condensed into ratings and other metrics, but the raw data also allow a range of other analyses if the necessary infrastructure and expertise are available. Regularly conducted studies from market research have likewise, over time, resulted in huge data sets about media use and other consumer behavior. Such data sets may also be “messy” due to changes in methodologies between individual waves or because data from different studies are fused into one data set. For example, a company like Nielsen may combine people meter data about television viewing behavior with information on consumers’ opinions or planned purchases gathered via surveys or with automatically collected

Internet-usage data. Data sets in the full sense of Kitchin's (2013) definition, however, only reached communication science in recent years.

Although big data analyses are not confined to social networking sites, their spread has led more and more communication scientists to engage in big data research and in debate about its value and significance (Parks 2014a). On social media platforms, user behavior leaves traces, intentionally and unintentionally, which are often not only visible to platform providers, but also to other users as well as researchers. Such third parties may see the results of people accessing a site and can often collect information that is not observable on a platform's surface. Social networking sites typically have application programming interfaces (APIs) that can automatically collect information about user behavior (Gaffney & Puschmann 2014; Lomborg & Bechmann 2014). While not everybody has access to large data sets from market-research companies or can afford to conduct studies of a similar scale on their own, social networking sites and other platforms with APIs have made the collection of large data sets available to considerably more researchers (Driscoll & Walker 2014). Additionally, user-friendly tools to gather as well as analyze such data are available, some promising that they do not "require significant background knowledge of data analysis" (Russell 2011: xvi).

The availability of big data for research purposes led Savage and Burrows (2007) to predict a crisis of traditional methods of data collection and analysis, and even of empirical sociology in general. In communication science, the discussion about big data lagged behind the emergence of research already using big data, in particular large automatically gathered data sets from social networking sites like Twitter and Facebook (Giglietto, Rossi & Bennato 2012; van Osch & Coursaris 2014; Wilson, Gosling & Graham 2012). Two early articles brought momentum to a more general debate about big data from a communication science perspective (boyd & Crawford 2011; Manovich 2012). In 2012, the closing plenary of the annual convention of the International Communication Association was dedicated to "the end of communication theory as we know it" due to the Internet and big data. The same year, the *International Journal of Communication* invited submissions for a special section on the topic (Crawford, Gray & Miltner 2014), followed by a special issue in the *Journal of Communication* in 2013 (Parks 2014b).

The increasing popularity of big data in the field is not only reflected in pieces about the phenomenon and its effect on the discipline in general. It also manifests itself in the growing number of studies which use big data sets or techniques of analysis. After a first entry from 2011, the EBSCO data base "Communication Source" documents a steady rise in the number of published journal articles containing the term "big data" in recent years: 5 (2012), 27 (2013), 69 (2014), 91 (2015), 142 (2016), 161 (2017).

While many studies apply big data methods, the reactions to this type of research, both in terms of its theoretical and methodological implications, are mixed. Some see respective approaches as a bright future for the social sciences in general (Lazer et

al. 2009; Miller 2011), while others are more critical (boyd & Crawford 2012; Couper 2013; Mahrt & Scharrow 2013; Manovich 2012; Ruths & Pfeffer 2014; Tinati et al. 2014). Ethical challenges are of particular importance in this regard (Crawford, Miltner & Gray 2014; Markham & Buchanan 2012; Neuhaus & Webmoor 2012; Qiu 2015; Zimmer 2010). Major ethical issues concern the fact that many big data approaches in communication science use data from social media platforms without the users' awareness or consent. In addition, such user information may be de-anonymized far more easily than with traditional research methods, making people identifiable and thus putting them at risk or causing them actual harm. Beyond ethics, big data shows comparatively large differences to conventional ways of conducting research in communication science.

3 Theoretical implications

The most vigorously claimed promises in big data concern the role of theory in the research process. In a heavily critiqued (2008) article, Anderson went as far as arguing that big data would make traditional ways of doing research, and with it, theory, obsolete. He stated that with enough data, it would no longer be necessary to develop theory-driven models about reality. Traditionally, researchers would derive hypotheses from theories and then test those hypotheses to ascertain whether the schematically reduced picture of reality described by the theory was supported by the data. However, Anderson wrote, "with enough data, the numbers speak for themselves" (paragraph 7), and thus theory would no longer be necessary.

This reasoning, typical of big data proponents, is explained by Mayer-Schönberger and Cukier (2013) via several steps. First, when large amounts of data become available for analysis, because they can be observed, recorded, stored, and analyzed, there is no more need for sampling. N , the number of cases, equals "all" (26–31). Without a sample, it is also no longer necessary to test results from an analysis against a null hypothesis, the opposite of what one expects to be true, based on a preexisting theory. In fact, following this logic, even hypotheses become obsolete, because one can simply mine the available large amounts of data for patterns of correlation (52–61).

Conventionally, social scientists are trained to distinguish between correlation, the mere co-occurrence of two phenomena, and causation, with the latter being the focus of many research endeavors into cause and effect of two or more phenomena. But with the much larger amounts of information used in big data approaches, correlation becomes more important because simply discovering a highly consistent pattern may be enough – or even preferable to mere assumptions about causality based on theories that are seen as sketchy or even wrong by default (Anderson 2008). Bailenson gave an illustration of the advantages of such an approach during the 2012

ICA closing plenary, citing a study he coauthored (Won, Bailenson & Janssen 2014). The study made use of the Microsoft Kinect system, a motion sensor compatible with the Xbox video game console, to record body movements of 53 student-teacher pairs. Relationships between the movements of both participants were investigated for their predictive potential for the learning outcome. The Kinect device captured postures and movements of twenty joints in the human body for about 1,800 frames per minute. This amount of detailed information would of course have been very difficult to observe, record, and code with traditional research methods. The scholars then used machine learning to identify patterns in student and teacher movements that correlated with how much the student had learned during the experiment. Exploring the data in this way resulted in findings for particular body parts and their respective postures that predicted high or low student success. During the ICA plenary, Bailenson stated that he and his colleagues would not have been able to derive hypotheses about these relationships beforehand, based on theories existing at the time. Had they constructed a traditional observation and coding scheme, they would have missed the discovered patterns because they would not have known what to look for.

Data-mining approaches can thus produce meaningful results and advance understanding of communication-related phenomena without following the traditional order of theoretical discussion, derivation of hypotheses, and design of respective measurement techniques. However, it would be a fallacy to assume that big data approaches such as the cited one do not contain or even need theory. The software used by the Kinect system recognizes body postures and movements in space. While these may be captured in a much more fine-grained way than via a typical manual coding scheme, they still need to be translated into categories to make them processable for a computer. The data set that results from such an approach is based on programming decisions that are far from being free of theoretical assumptions (Andrejevic 2014; Mayer-Schönberger & Cukier 2013: 70–72). More generally, to be able to collect large amounts of data, be it via a video game console, a social networking site, or an alternative source, this process needs to be automated. And it fundamentally requires categorization of different states of reality, which are written into the algorithms of the devices or platforms that record the data in the first place and/or those that gather them for research purposes (Gillespie 2014). It would thus be an illusion to believe that data sets of whatever size would contain *all* the information on a phenomenon, since *any* kind of data collection always necessarily only captures parts of reality while excluding others (Bowker 2014).

In addition to this fundamental principle of data collection, which of course also applies to big data research, another argument has been advanced against the claim of N equalling “all” with big data. In a strict sense this claim may be true for a big data study on “all posts by user group X on social media platform Y during timeframe Z.” But such a data set would still represent only a small selection of group X’s media use, let alone their use of other social media platforms, or their use of platform Y during timeframes other than Z (Mahrt & Scharrow 2013). In addition, what posts are

collected can vary considerably depending on the chosen method (Driscoll & Walker 2014; Vis 2013). The results therefore cannot claim to be representative of aspects of reality other than those actually captured, limiting their theoretical significance. It may even be questionable if they truly contain “all” relevant items.

Despite the criticism summarized in this section, big data approaches can still be the best way to study phenomena that are of interest to communication science. Webster (this volume) discusses how structures of digital platforms such as search engines or recommender systems affect the ranking, selection, and filtering of digital content. The exact workings of the underlying algorithms are usually hidden from users and researchers alike (Gillespie 2014), yet their effects may have important implications for many issues in communication science, such as content distribution and audience fragmentation (Pariser 2011). Automated techniques that can handle large amounts of data help reveal how algorithms influence what individual users of online platforms see, and in what order.

What has drawn a lot of criticism, on the other hand, is to use big data for research on long-existing theories and constructs by simply attaching existing categories from digital platforms to them (Bright 2017; Mahrt 2015; Mathieu et al. 2016). As boyd and Crawford (2012) illustrate, even a seemingly simple construct such as “Twitter user” may be hard to apply to a large collection of posts from the microblog. Not all accounts included in a data set may represent a single person, or even a human, while other users (in the traditional sense) may be missing if they did not post anything that could be picked up through the chosen method of data collection.

With more advanced concepts, understanding what information in a big data set actually means becomes even more difficult. Many studies on social networking sites, for instance, have investigated their relationship to social capital (Wilson, Gosling & Graham 2012). Users typically connect with others on such platforms, which enables communication and possibly exchange of resources, such as information on job openings or social support. In other words, the creation and maintenance of social relationships via social networking sites may be related to the amount of social capital a user enjoys. The literature on social capital is extensive, with a range of conceptualizations of what it means and how it is created or acquired (Adler & Kwon 2002; Häuberer 2011). This stands in stark contrast to some big data studies that use the number of connections a user has built on a social networking site as the sole indicator of that person’s social capital. This approach ignores the many different reasons the user may have to initiate or accept a connection with another user, as well as the diversity of relationships that may exist between them: All relationships may look the same in a big data set, since two users are either connected or not connected. In addition, studies that compare traditional indicators for an individual’s social capital with their number of connections on Facebook have found only weak associations between the two (Burke, Kraut & Marlow 2011; Yoder & Stutzmann 2011). Results like these stress the importance of seriously questioning the validity of categories collected in typical big data studies.

Some big data researchers consider theories obsolete, and may therefore conduct studies without theoretical discussions. If, however, theories and constructs from existing literature are explicitly integrated into big data studies scholars should carefully consider what the categories available to them in their data set actually *mean* – or run the risk of missing the mark. Many commentators instead advocate research that continues to be driven by research questions, not the data that happen to have become available via one platform or another (Karpf 2012; Kitchin 2014; Mahrt & Scharnow 2013; Mathieu et al. 2016).

4 Methodological implications

Big data sets in communication science are often collected differently than via traditional methods and may be processed and analyzed in different ways as well. Bright (2017) provides a brief introduction to big data methods for social scientists. This section focuses on the main methodological implications of applying big data techniques; these concern the collection, analysis, and interpretation of data.

4.1 Data collection and access

In communication science, most big data studies are based on data from platforms that have not been created for research purposes. Big data have therefore also been described as “found data,” but it is important to keep in mind that these data are far from being “raw” or “natural.” They have been constructed: by the users who accessed a service, by the platform from which traces of these interactions were collected, by the tool used for the collection of data, and by the researcher deciding what to collect (Driscoll & Walker 2014; Puschmann & Burgess 2014; Vis 2013). Decisions made at all these levels influence the resulting data set, and not all decisions may be in line with the purpose of a given research endeavor. In many cases, decisions made by other actors may be opaque, but even previous academic research is often reported in vague terms regarding the exact methods of data collection on which it is based (Driscoll & Walker 2014). However, these choices can greatly influence the outcomes of big data studies (a prominent example concerns the alleged ability to predict election results via Twitter; see Gayo-Avello 2013; Jungherr, Jürgens & Schoen 2012).

For some purposes, software already exists for collecting data from a platform; in other cases, coding skills may be necessary to develop or customize existing programs (Bright 2017; Vis 2013). As stated above, collecting large amounts of data necessarily relies on categories that already exist on the target platform. Many social media sites, for instance, afford making connections with other users, contributing or forwarding content, and evaluating others’ content via buttons or comments. Additional

meta-data about the interaction between a user and a platform is often also available, for instance about the time or location of a post or the device used to access a service. The platform's API determines which types of interaction and meta-data can be accessed and usually structures these around a smaller or larger number of categories. Yet neither the platform and its features with which users can interact, nor the API, available meta-data, or respective terms of use for research purposes are stable (Karpf 2012; Ruths & Pfeffer 2014; Vis 2013; Wells & Thorson 2017). It is thus challenging to devise a method of data collection that allows replicability.

The previous section mentioned that the claim of "N = all" may be difficult to uphold with big data studies. Platforms typically limit how much information can be accessed or downloaded by a single account or during a given period. In addition, older content may become invisible or inaccessible after a while. Neither of these limitations are transparent; therefore, the representativeness of a collected data set is usually hard to determine.

Linked to this criticism are concerns about who has access to big data research that would allow a more inclusive method of data collection (Driscoll & Walker 2014). Platform providers control what information is available for research or other purposes via APIs. They themselves, however, have much larger amounts of data and possibilities for research available to them. In recent years, several studies have been published by in-house researchers or in collaboration with them that are based on very large data sets from their platforms (e.g., for Facebook, Bakshy, Messing & Adamic 2015; Bakshy et al. 2012; Bond et al. 2012). In some cases, this has sparked controversy. A prominent example is a study on emotional contagion of Facebook posts (Kramer, Guillory & Hancock 2014), in which a large sample of Facebook users were assigned to two experimental conditions. Over the course of one week, their personal news feeds showed fewer positive or negative posts, respectively. The users subsequently tended to use more words that matched the dominant emotion of their feed in their own posts, which the researchers interpreted as transference of emotions. However, their study has been heavily criticized because users were unaware of their participation in the experiment and could not opt out (Chan 2015). Others raised concerns about the chosen methodology and lack of validity of the experiment (Panger 2016).

Platform providers can subject users to different variants of their service's interface, and test how these impact, among others, diffusion of information, imitation of other users' behavior, or selection of offered posts. The ulterior purpose of such studies is likely the optimization of the platform, for instance in terms of user satisfaction, increase in usage time, or click-through rates to advertisements. Ethical, theoretical, or methodological considerations may be discarded in favor of these goals. Chan (2015) thus warns of collaborations with in-house research teams, however tempting the idea of having access to research on Facebook or other platforms may be.

Beyond proprietary research, concerns have been expressed about a divide between researchers who have the resources to conduct meaningful big data research

and those who do not (boyd & Crawford 2012; Driscoll & Walker 2014). Building a structure that can continually download and store large amounts of data may be a challenge, while purchasing data access from official resellers such as Gnip or Data-Sift is beyond the means of many academics or departments. The resulting unequal access to big data may have negative consequences for the analysis of the data as well as potentially one-sided interpretations of the results (Brock 2015).

4.2 Data analysis

Due to the size and structure of big data sets, typical quantitative analytic techniques, in particular those involving tests of statistical significance, may not be applicable or need to be adapted because of the large sample size. On the other hand, big data sets allow different kinds of analyses than smaller data sets do. The apparent connections between users and content items on social media platforms, for instance, have brought network analysis to more prominence in communication science (respective approaches and recent developments are discussed by Weber, this volume). With social media data, network analysis can be insightful about, among others, diffusion of information (Bakshy et al. 2012) or the role of homophily in political orientation for social media users (Colleoni, Rozza & Arvidsson 2014).

Other types of analyses of big data in communication science explore the degree to which frequencies and trends over time in social media topics may be useful for agenda setting research (e.g., Guo et al. 2016; Neuman et al. 2014). Some of these studies apply techniques for automated content analysis that can process much larger quantities of data than human coders (Guo et al. 2016; van der Meer 2016). Respective techniques are also explored for journalism research into news content (Flaounas et al. 2013; Günther & Quandt 2016). Much of this research is descriptive in nature, and correlations among the investigated phenomena, which proponents advance as the strong suit of big data, are still only rarely presented. Kitchin (2014) argues that big data analyses in the social sciences have not yet realized their full potential.

Apart from this quantitative route of mining large data sets for patterns, many commentators stress the ongoing need for methods of data analysis that include human interpretation of the data and the results. They see communication science as ultimately interested in *understanding* rather than simply documenting social reality (boyd & Crawford 2012; Kitchin 2014; Lomborg & Bechmann 2014; Manovich 2012). In fact, many qualitative and interpretive big data studies exist, as the phenomenon is not exclusive to quantitative research (Bisel et al. 2014; Lohmeier 2014; Smith 2014; Tummons 2014). Some studies may select a small number of relevant cases from a large data set for deeper inquiry, while others use computational methods of data visualization for dynamic and explorative interpretations of big data (Brooker, Barnett & Cribbin 2016). Hybrid approaches that combine automated and manual, interpretative

methods are another fruitful way of using big data in communication science (Karpf 2012; Zamith & Lewis 2015).

4.3 Interpretation of data

As explained in section 3, it remains unknown what many categories from social media platforms mean, beyond their face value (e.g., the number of times the “like” button has been clicked on a Facebook post). A connection between two users may represent very different motivations or types of relationships, and “liking” or sharing something may happen for equally diverse reasons or in a multitude of situations. In traditional research, the investigators would determine how they want to measure the constructs pertinent to their project and try to assess and ensure their validity. Many commentators advise caution about using seemingly simple categories in a big data study without an understanding of what they mean and in what contexts they appear (boyd & Crawford 2012; Lomborg & Bechmann 2014; Mahrt & Scharrow 2013; Ruths & Pfeffer 2014).

Comparative research using traditional modes of measurement and big data categories can help answer such open questions about the meaning of information in big data sets. It is an empirical question how, for instance, trending topics on Twitter compare to the agenda of news media. If the microblog proves to closely mirror topics and timelines from other sources, a study using automatically gathered tweets could replace other forms of agenda setting analysis. Since this does not seem to be the case for Twitter and major news media (Groshek & Groshek 2013), claims about frequency of tweets as indicators of issue salience cannot be made. Researchers using such measures should thus be careful when interpreting their results. Sticking to descriptions of what one has discovered for the categories in the data set may seem limiting, but may be truer to the actual significance of the data and the subsequent results.

It is additionally important to understand that big data sets may contain spam and attempts to manipulate outcome variables, such as those supposed to indicate popularity (Karpf 2012; Lazer et al. 2014). If a given category from an online platform is known to have monetary value, the category can be expected to be gamed. Click numbers, for instance, can be increased via bots, and the number of contacts (e.g., “friends” on Facebook or “followers” on Twitter) can be augmented by paying for more contacts, or engaging in a network of accounts that exists solely to make all members appear more popular or well-connected. Likewise, advertisements or spam may be attached to trending topics that are picked up by certain methods of data collection, such as hashtags on Twitter. Big data thus require eliminating such faulty data before proceeding with any analyses. Data cleansing is therefore crucial to ensure the validity of analyses with automatically collected data sets.

Currently, many big data studies on communication phenomena are run by researchers from other fields, such as physics or mathematics. While they may have a detailed understanding of the algorithms used to collect and analyze the data, they may lack context about the social phenomena under study (Bright 2017; Panger 2016). The other way around, many communication scientists have not been trained in computational methods and may struggle to decide which methods of analysis best fit their research questions and data. In both cases, this may lead to misinterpretations of results from a big data analysis.

5 Outlook

Big data has brought many innovations to communication science, in terms of methods for conducting research and objects to study. This chapter has cited several examples of studies that propose new ways to investigate long-standing theories or propose novel approaches for the analysis of digital media and online communication. They stem from different fields of communication science, including audience research, journalism, as well as political, organizational, and instructional communication. It is debatable, however, if all the cited examples are best described by the term “big data.” Bright (2017: 126) states that it is often used as an “umbrella concept,” and in fact, alternative notions exist that overlap with big data. The implications of big data as outlined by the present contribution have also been discussed under the headings of “digital methods” (Rogers 2013; Snee et al. 2016), “emerging methods” (Burgess, Bruns & Hjorth 2013), or “datafication” (boyd & Crawford 2012; van Dijck 2014). For some, the respective developments may even bring about a new paradigm of “computational social science” (Lazer et al. 2009; Zamith & Lewis 2015). At the time of writing, it is unclear whether big data, one of other concepts, or yet an alternative one will become an integral part of the discipline in the long run.

The journal *Big Data & Society*, launched in 2014, indicates a certain belief among the editors and the publisher (Sage) that in one way or another, the phenomenon is here to stay. However, there is no consensus on the place of respective approaches in communication science. While some researchers enthusiastically explore new research opportunities, this chapter has summarized the criticism and skepticism of others.

Following Kitchin’s (2014) assessment of big data for “new epistemologies and paradigm shifts,” big data’s future role in communication science will likely depend on how well it can be integrated with the discipline’s long-standing notions of what makes for valuable research. How researchers ask questions and design studies has developed over time, and influences how new approaches are evaluated – and ultimately adopted or rejected. Some of the cited discussions of big data, for instance, are clearly marked by the well-established juxtaposition of quantitative versus

qualitative approaches (Brooker, Barnett & Cribbin 2016; Mathieu et al. 2016). The future will show whether such divides will be re-opened or deepened through big data, or whether the combination of methods (as advanced, e.g., by Karpf 2012) may help reconcile both sides.

A fruitful integration of big data in the mainstream of communication science will probably also depend on whether the discipline finds ways of expanding knowledge of computational methods among its members. Collaborations with researchers from other fields may be one way of moving forward, but for a true paradigmatic shift, communication programs would also have to include training in respective techniques in the future. Both an understanding of communication theories and of the role that methods play for their advancement appear pivotal if big data is to advance the discipline (Bright 2017; Karpf 2012; Mahrt & Scharkow 2013; Mathieu et al. 2016; Panger 2016).

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33 Conclusion – Future of the Field

Abstract: Predicting the future of mediated communication research is a dicey proposition, especially since both our objects of study, and how we study them, are being rapidly transformed. At a minimum, any effort to do so requires knowing where we have been; acknowledging that where we are headed seems very different from the past; realizing that the margins of both the contemporary information environment and how we study it contain important clues to the future; and being cognizant that we – as both participants in and trained observers of this environment – have agency in what the future might look like. Using these four guiding principles, and drawing on both the insights provided by the chapters contained in this volume and its organizational structure, I explore the foundations of mediated communication scholarship; its evolving theories and methods; the importance of context; and the range of longstanding and emerging areas of substantive relevance to mediated communication research. Throughout I foreground the tension created by the heterogeneity of what we study and how we study it, and the desire for generalizability and theoretical parsimony.

Keywords: mediated communication, media effects, communication theory, communication methods, mixed methods, triangulation

“Study the past if you would define the future.”

Confucius

“The future ain’t what it used to be.”

Yogi Berra

“The future is here. It’s just not widely distributed yet.”

William Gibson

“The best way to predict the future is to invent it.”

Alan Kay

Attempting to predict the future of mediated communication research is a dicey proposition, especially since both our objects of study, and how we study them, are being rapidly transformed. In my effort to do so in this chapter, I am guided by the wisdom contained in the four quotes above: that we need to know where we have been in order to understand where we are headed; that where we are headed seems very different from where we have been in important ways; that the margins of both the contemporary information environment and how we study it contain important clues to the future; and that we – as both participants in and trained observers of this environment – have agency in what the future might look like. With these four guiding principles in mind, I organize my chapter to parallel the structure of this volume (“intellectual foundations,” “theoretical perspectives,” “methodological

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approaches,” “contexts,” and “contemporary issues”), building on the excellent summaries, critiques, and recommendations provided by the chapter authors.

1 Intellectual foundations

The value of efforts to define objects of study and approaches to studying them is both conceptual and territorial. As noted by Everette Dennis (“Beginnings: Origins of Mediated Communication Research”), the term “mediated communication” is a relatively recent term, “developed as an alternative to mass communication” and adopted in response to “the rise of convergence wherein all forms of communication would come together in a single computer-driven electronic system, namely the digital age.” In turn, “the term mass communication itself was widely understood to embrace large audiences with communication that conquered time and space,” thus distinguishing itself from face-to-face, or interpersonal communication. It is not coincidental that the emergence of these fields of study coincided with significant technological and methodological developments. In the case of mass communication research, this included the newspaper and other forms of one-to-many print media (see Dennis on early twentieth century European contributions to this research) and the rise of electronic media such as radio, film, and television. It also included the development and increased use of a range of quantitative methodologies, including public opinion polls, content analyses, and quasi and formal experiments. In the more recent case of mediated communication research, the technological drivers are computers, the internet, and mobile digital technologies, and the methodological ones are computational science and the growing availability of “big data.” Of course in both periods significant social, cultural, political, and economic changes were also at play, implicated in both the rise of these technological and methodological developments, and (in theory) as the possible effects of them (Williams and Delli Carpini, 2011).

In reality the development of both communications technologies and communication research has been messier than this simple narrative suggests. Interpersonal communication, as both a phenomenon and as an object of study did not disappear with the advent of mass media, and neither is gone in the current digital era. Qualitative and “20th century” quantitative methods have remained central tools (and epistemologies) for communication research even as new forms of computational science methods have emerged. And both interpersonal communication research and qualitative research methods have intellectual foundations largely distinct from those foregrounded in this volume. The result has been the tribalization of the communication field into relatively distinct camps of scholars: qualitative interpersonal communication (e.g., Walsh, 2004; 2007); quantitative interpersonal communication (e.g., Jacobs, Cook, and Delli Carpini, 2009); qualitative mass communication (e.g.,

Ang, 1985); quantitative mass communication (e.g., Mutz, 1998); qualitative mediated communication (e.g., Lingel, 2017); and quantitative mediated communication (e.g., González-Bailón, 2017).

While this substantive and methodological diversity can work against the disciplinary ambitions of communication scholarship as a profession, it is, I would argue, generally a good thing. But three caveats are in order. First, and perhaps ironically, is the poor communication that occurs across these camps (and the numerous sub-groupings within each). True these lines have been crossed on occasion, perhaps most notably with the “two step flow model” (Lazarsfeld, Berelson, and Gaudet, 1944; Katz and Lazarsfeld, 1955), or more recently and consciously, in a special issue of the *International Journal of Communication* (2013) entitled “Breaking Boundaries.” But by and large, cross-fertilization and collaboration remain more exceptions than the rule. Second, more than in the past, the emerging digital information environment is eroding the distinctions between interpersonal, mass mediated, and computer mediated communication, making a focus exclusively on one of the parts arguably more difficult, less productive, and less justifiable than ever before. And third, it remains unclear whether the digital media environment, and its blurring of interpersonal, mass mediated, and computer mediated communication, is more than simply the sum of its parts, and if so, to what extent existing theories – and methods – still apply.

2 Theoretical perspectives

In their provocative 2008 article, Lance Bennett and Shanto Iyengar foreground a challenge faced by twenty-first Century political communication scholars; one that can equally apply to the field of mediated communication as a whole:

...much contemporary work is guided by the echoes of a fading modernist tradition that may not account for a good deal of contemporary political experience. One result of this disjuncture among theory, social change, and research is that we are beset with new puzzles and paradoxes in communication processes that seem to elude explanation and often remain outside of scholarly discussions entirely.... What this suggests is the need for theory building. (p. 713; 725)

While defenses of the continued utility of existing theory in the era of mediated communication exist (see, for example, Holbert, Garrett and Gleason’s 2010 response to Bennett and Iyengar), it seems clear that the undeniably radical changes occurring in the communication ecosystem require an “audit” of existing theories. The seven chapters in the “Theoretical Perspectives” section of this volume begin to provide such an audit by reviewing a number of the central theories that still underpin much of contemporary communication research, and assessing their applicability in the digital information environment.

2.1 Adapting existing theories to the digital information environment

Two informative themes emerge (explicitly and implicitly) from these chapters. First, to the extent that existing theories are still relevant, they are, at a minimum, likely to produce new empirical results, and more often than not will need to be adapted to the realities of the digital media environment. For example, in his overview of several “classic” communication theories, Michael Elasmser consistently reaches this conclusion:

- *Two Step Flow*: “In the new media environment, it will undoubtedly still be important to study how interpersonal influence at times combines with and at other times interacts with media consumption and how these two factors influence the beliefs, attitudes and behaviors of media users.”
- *Selective Exposure*: “There is no doubt that the new fragmented media environment can facilitate selective exposure... but the conditions that trigger and moderate the selective exposure processes still need to be fully uncovered.”
- *Uses & Gratifications*: While “Parker and Plank (2000: 48) pointed out that gratifications for using the Internet are the same as those found for traditional media and proposed that the ‘motivations for using the media are stable and may not be media dependent,’” a number of other researchers have identified a range of new uses and gratifications associated with the internet, social media, and mobile phones. “This new media environment constitutes a very fertile environment for the study of what drives individuals to select specific platforms and contents.”
- *Cultivation Theory*: “...the cultivation hypothesis might have to morph from one that is broad and characterized by a weak effect that extends across an entire society to mini-cultivation hypotheses that are characterized by a strong effect found within specific audience/media user groups that receive homogenous messages.”
- *Agenda Setting*: “The new media environment is a fascinating context that will undoubtedly add new components and perhaps even additional levels of Agenda Setting.”
- *Spiral of Silence*: “Tsfari, Stroud & Chotiner (2014: 17) propose that ‘the spiral-of-silence in its original form could be replaced by a reinforcing spiral process in which partisans become more polarized as a result of selective exposure.’”
- *Media Dependency Theory*: “...in the new media environment, the notion of Media Dependency has acquired an expanded meaning. Fragmented information consumers are not only dependent on their traditional and new information sources... but they are also highly dependent on the devices themselves and on being connected to the information networks that allows them to be consumers as well as producers of information.... The rise of social networking has blurred the dividing lines between institutionalized and interpersonal information and media consumers are likely to have become dependent on both information types.”

The other authors in this section reach similar conclusions. John Carey, in reviewing the eight central theories of media adoption and their applicability in the digital media environment, writes that:

Similarities [between the old and new information environments] include the introduction of most new technologies at a high price which declines over time, advantages and disadvantages of being first to market, and failures and fads as well as successes. Differences include a faster pace of technological introductions, more time spent with media technology, more women who are early adopters, and earlier internal influences through social media.

He also notes that:

Along with the many positive effects of new media technologies, there is also a dark side of negative content and behaviors. These range from annoying journalistic and marketing tactics to fraud to terrorism. Some existed in the 20th century world of analog media technologies but not on the scale or scope of the digital era.

Ultimately Carey concludes that “There are no perfect analogs in the past for a new technology today but there are lessons.” Sora Park, in her chapter on media usage, writes that “changes in technology have changed the media users experience and is altering the theories that explain new social phenomena,” arguing that “in the age of digital media, a new perspective on the uses of the medium versus usage of the content is necessary to understand the complexity of the media systems.” Jill Edy, in her overview of theories of content creation, ends in a similar vein, stating that “Since all the components that influence media content are themselves dynamic, one would expect that theories will evolve and require updating as both the media and the social world change over time.” And Kim Schroder, drawing a more general lesson from Mathieu and Pavlíčková’s study of Facebook users, argues that the power of reception analyses is the provision of “phenomenological insights into everyday life that may serve as the conceptual building blocks of new theoretical frameworks for understanding media cultures.”

2.2 Integrating and reinventing theories of mediated communication

If the first theme running through these chapters is about the need for theoretical adaptation and revision, the second is a more ambitious call for integration and reinvention. This theme emerges from several more specific strands. Many of the authors note that even prior to the advent of mediated communication (as defined in this volume) there has been a remarkably similar pattern that characterizes the evolution of communication theories of various stripes; one in which initially simplistic theories become more complex and context-dependent. This pattern is described most directly by Elasmer:

When looking at the shared pattern across parallel theoretical tracks, we find that each theorist begins with a simplistic explanation involving media exposure and a specific effect or predisposition with which this theorist is associated. Over time, we find that theorists and/or their followers acknowledge that their initial thoughts about the relationship they set out to investigate were not sufficient in explaining the outcome stemming from or leading to media exposure. They progressively begin adding additional factors to their theoretical frameworks.

This increased complexity often leads to an “overlapping” across competing theories. However, this overlap and its potential for cross-fertilization often goes unnoticed or un-responded to.¹ According to Elasmers, media effects theorists “rarely acknowledge the similarity of their work with that of other theorists even within a same research domain.” James Webster, talking about theories of audience behavior, concurs, writing that “you might think that a general theory of audience behavior had been developed and tested long ago. That is not the case. In fact, the theories applied to the aforementioned problems are varied and generally not in conversation with one another.” And Edy notes that while her chapter “considered four key dimensions of content creation separately, it is not hard to *imagine* these components interacting to influence the production of media content (*italics added*).

Both the potential for theoretical integration and the importance for increased cross-theory conversation if such integration is to be achieved are especially obvious, especially relevant, and especially needed in the digital information environment. They are arguably also more possible in the current information environment, given (1) the erosion of twentieth Century distinctions between news and entertainment, between mass mediated and interpersonal communication, between information producers and consumers, and between facts, opinions and beliefs; and (2) the emergence of a mediated landscape that is increasingly “multiaxial” (i.e., in which the gatekeeping role of professional journalists and their control of the public agenda is ceded to multiple, shifting, and often previously invisible, fringe and/or less powerful actors) and “hyperreal” (i.e., in which the mediated representation of reality becomes more important to individual and collective political deliberation, opinions, beliefs, and behaviors than the facts underlying them). In such a mediated communication environment the categories that traditionally defined different areas of communication research and thus that produced distinct theories with distinct histories, become less defensible.

This pull towards an integrated theory of mediated communication is evident in several of the chapters in this section, with more or less explicit calls for (or efforts at) such an approach made by Elasmers, Webster, Edy, Schroder, and Carlos Scolari. Of these, Scolari’s call for “a new discipline – media evolution – . . . dealing with past, contemporary, and future transformations of the media ecology” offers the most ambitious attempt to create a holistic approach to theorizing the mediated environment

¹ Though Kim Schroder’s chapter on audience reception, which builds on his earlier work (2000), is an excellent example of an effort to do so through the creation of a multi-dimensional model.

in historical context. Works by Bruce Bimber (2003), Lance Bennett and Alexandra Segerberg (2013), and Russell Neuman (2016) provide additional contributions to this endeavor. Of course developing a single, useful theory that is applicable across substantive, temporal, geographic, and demographic domains is no small task. True, the digital media environment, with its blurring of longstanding boundaries, seems more amenable to such macro-theory building than may have been the case in the past. At the same time, however, its complexity and rapid pace of change may make such an endeavor unrealistic, and perhaps even counterproductive. As Edy cautions:

Theories explaining the influence of particular technologies, practices, or regulations on content creation may go out of date relatively quickly as those characteristics of the environment change. Theories that explicate broader patterns of influence generated by lasting features of the environment such as the uneven distribution of social power, the ways in which social norms are enforced or adapted, or the patterns by which technological innovations spread through a system, may offer more lasting understanding of the factors that influence content creation. Even these, however, will need to be interposed with specific features of the media and social environment ascendant at a given moment in time and may need to be adapted in the face of innovation. Stay tuned.

3 Methodological approaches

In his chapter on social network analysis, Matthew Weber notes four questions that any researcher should ask before deciding on a methodological approach to take: “What is the overarching theory and/or research question?” “What is the level of analysis?” “What is the nature of the relationship explored in the study?” and “What is the hypothesis being tested?” The answers to these and related questions, and the resulting methodological choices that emerge, are evolving in ways that both parallel and are influenced by the changes occurring in the digital information and communications environment.

As noted earlier in this chapter, the core theories that underpinned most twentieth Century mass communication research are, at a minimum, in need of reexamination, and possibly in need of significant revision, integration, or even replacement. In turn, this theoretical uncertainty has downstream effects on the research questions we ask, the level (and units) of analyses we focus on, the nature of the relationships we anticipate, the specific hypotheses we test, and so ultimately, the particular methods we use. The simple distinction between one-to-one and one-to-many communications has given way to a more complex set of interactions that add new forms of many-to-one and many-to-many communications to the mix (Delli Carpini, 2004). Similarly, the morphing and mixing of traditional categorizations of genres (e.g., news versus entertainment, comedy versus drama, commentary and opinion versus reporting, etc.); of mediums and communication sectors (e.g., television versus radio versus print; broadcast versus cable; even offline versus online); and of communication producers versus consumers, further complicate the information environment we are attempting

to understand (Williams and Delli Carpini, 2011; Chadwick, 2013; Rogers, 2013). At the same time, these very same changes are providing challenges to and opportunities for the ways in which we conduct research, and the data we use to do so.

3.1 Content analysis

The methodological implications of these changes, challenges, and opportunities are evident in the chapters contained in this volume. Consider content analysis, arguably the quantitative method² that can be most rightfully “claimed” by the field of Communication. “Content” is central to any theory or research question involving the creation, dissemination, reception, or impact of communication. As a result, content is seldom analyzed for its own sake, but rather for what it can tell us (implicitly or explicitly) about its producers and consumers. To be useful in this endeavor, however, we must have confidence that the content is reliably and validly described.

The quantification of content analysis, and the evolving techniques reviewed in the chapter by Jim Macnamara, are essentially efforts to assure this reliability and validity. Always a difficult goal to achieve, the growing complexity and diversity of the contemporary media environment has made this task significantly more difficult. Consider, for example, theories of media effects. As noted by Macnamara:

Because of the central role played by mass media and more recently social media in contemporary literate societies, and particularly because of intensive interest in and often concern about the effects of media content on awareness, attitudes, and behaviour among media consumers, analysis of the media content has become a widely-used research method among media and communication scholars and practitioners as well as sociologists, political scientists, and critical scholars.

Accurately describing the information to which consumers are (potentially) exposed was arguably a more manageable task in the era dominated by broadcast media, when sources were limited in number and similar in content. In the current mediated environment, in which the number and type of sources is increasing geometrically, and the volume of information is increasing exponentially, identifying the appropriate sources to analyze, let alone accurately capturing and analyzing their content, can be daunting. This often means making choices based on ones theories, research questions, hypotheses, and level of analysis. But even these choices are complicated by the growing uncertainty (discussed earlier in this chapter) as to which theories are applicable, what research questions and/or levels of analysis are most appropriate, etc.

² As discussed by Mcnamara, content analysis can also be done in more qualitative ways, as well as using a mix of quantitative and qualitative approaches. In the spirit of this volume, however, here I focus on quantitative approaches.

A potential solution – one emerging, somewhat ironically, from the same source as the problem it is attempting to solve – is the use of computational science methods and “big data.” As noted by Macnamara, automated approaches to content analysis, based on natural language processing, remain something of a work in progress, with many researchers being especially skeptical about the efficacy of “fully automated” methods. Automated content analyses can be susceptible to a-theoretical description. And they can miss the nuance that is often key to understanding the meaning contained in the content being analyzed.

Nonetheless, these automated approaches represent a major step beyond “computer assisted” content analysis and, to my mind, hold great promise. In a relatively short period they have evolved rapidly in their ability to assess both manifest and latent content. They provide unprecedented ability to analyze large and complex data sets (including those collected from the digital traces of online communications), and to monitor overtime changes, often in real time. They can address some, though not all, of the concerns related to sampling and coverage. They provide new analytic measures of the information environment that can move beyond a particular text, genre or medium, and arguably better capture its dynamic, interactive, and networked qualities. And, while automated content analysis can be a-theoretical in its application, there is nothing inherently a-theoretical about the method itself, and given our uncertainties regarding cause and effect in the digital information environment, they can provide the data for both inductive (i.e., grounded) and deductive theory building and testing (Saroka, Young, and Balmas, 2015; Schwartz and Ungar, 2015; Boumans and Trilling, 2016).

3.2 Surveys

The contemporary mediated communications environment similarly creates new challenges and opportunities for what remains, as is made clear in the chapter by Paul Lavrakas and Gerald Kosicki, our central method of understanding public opinion and behavior – survey research. Much like content analysis, the art and science of understanding public opinions, beliefs, attitudes, knowledge, and behaviors has evolved overtime, driven in large part by efforts to improve the reliability and validity of the data produced and the conclusions drawn from them. For the latter third of the twentieth Century, the dominant method for doing so remained telephone surveys based on probability samples, which in theory assured that each member of the relevant population had an equal and knowable chance of being selected. But many of the changes evident in the information and communication environments of the late twentieth and early twenty-first centuries have challenged this method, as well as our ability to link survey data to core questions of media effects. Technological developments from the answering machine to the mobile phone have made drawing accurate probability samples and/or achieving what was once thought of as acceptable response rates

expensive and difficult. More specific to the subject matter of this volume, measuring media exposure through survey questions, always a fraught endeavor, as Lavrakas and Kosicki point out, has become increasingly difficult as the range and diversity of sources one can be exposed to (and the nature of the content) has increased. Without the ability to assess exposure accurately, testing media effects in any meaningful way becomes impossible. In addition, the interactive, networked nature of the contemporary information environment, and its blurring of information producers and consumers, creates increasingly active “audiences” that problematize the very notion of a largely one-way media “effect;” a notion that is at the core of most extant theories.

At the same time, the digital information environment provides new ways of using surveys to measure exposure and divine public opinion. As noted by Lavrakas and Kosicki, one of the earliest innovations, made possible in part by computer assisted interviewing,³ is the ability to combine the generalizability of random probability sampling with the internal validity of randomized experiments (e.g., Time-sharing Experiments in the Social Sciences, or TESS, <http://www.tessexperiments.org/>). While in part a response to the growing difficulties and related expenses created by declining response rates in telephone surveys, the increased use and acceptance of well-designed Internet research panels, also noted by Lavrakas and Kosicki, affords new opportunities for including useful visual cues (e.g., graphics, images, video, response options, etc.) that can both improve respondents’ understanding of questions and test reactions and opinions to a wider range of relevant topics. And the issue of measuring media consumption in today’s more complex information environment has led to the development of new, often more detailed batteries of questions to better measure the specific media consumption habits of the public (e.g., Dilliplane, Goldman, and Mutz, 2013). Finally, and while still in its infancy, particularly promising is the possibility of divining public opinion and behavior through the use of “unobtrusive” measures drawn from the data traces left by digital information and communication technologies (e.g., González-Bailón and Paltoglou, 2015), and the growing ability to merge individual and aggregate level data sets of various kinds and sizes with that drawn directly from surveys responses.

3.3 Experiments

One of the major strengths of well designed and implemented surveys is their external validity. But, even when using panel studies, demonstrating causality

³ Embedding simple “experiments” in surveys through such techniques as split half samples with alternative question wording or ordering predate the computer era, but the ability to easily conduct more elaborate, “true” experiments parallel the emergence of newer technologies.

(i.e., internal validity) through surveys alone is problematic. In this regard experiments are clearly superior. As Natalie Talia Jomini Stroud and Katherine Haenschen note in their chapter, “By randomly assigning subjects to different conditions and manipulating the independent variable, scholars can isolate the effect of a treatment on an outcome of interest.” They go on to say that “Although these essential components of the method remain constant, there have been several recent innovations in the implementation of experiments.” As with content analysis and surveys, these innovations are at least in part both a reaction to and facilitated by changes in the information and communication environment. Again quoting Stroud and Haenschen:

The recent explosion of social media, however, makes studying message effectiveness more complicated because messages can be public, shared within networks, and included alongside many other messages on a variety of topics from news to wedding pictures.... Adapting the method to social media is particularly important not only due to social media’s dominance in people’s daily lives, but also because social media shed insight into how people behave as members of networks.

What are some of these innovations and how do they connect to the contemporary mediated environment and how we study it? Stroud and Haenschen focus on four key developments: the incorporation of “choice” in experimental designs (improving our ability to generalize to more real world settings); expanding the types of people studied (improving our ability to generalize to different populations); identifying new sites in which to conduct experiments (improving our ability to generalize to new forms of communication); and conducting experiments in sites such as *Facebook* and *Twitter* (improving our ability to generalize beyond individuals to online social networks). They go on to note that “two trends cut across” these developments: the use of behavioral (rather than opinion or self-reported) outcome measures; and field experiments (and quasi experiments) that “take place in the real world and closely mimic the studied phenomenon in its naturally-occurring context.” Additional innovations are, as noted earlier, the merging of surveys and randomized experiments (e.g., TESS) in which randomization to treatment is embedded into random probability surveys, thus combining the external validity of the former with the internal validity of the latter, and the use of natural (quasi) experiments, in which survey or behavioral data gathered before and after a natural mediated occurrence can be treated as similar to randomization to treatment (e.g., Kim and Kim, 2016).

3.4 Social network analysis

As with theory, methodological change in the study of mediated communication has included not only the adaptation of existing approaches such as content analysis,

surveys, and experiments, but the development (or more accurately importing) of new ones. The best example of this is “social network analysis.” As Matthew Weber notes, “The roots of social network analysis can traced as far back as Comte and Durkheim” in the nineteenth Century. Yet while there are examples (again noted by Weber) of its use in the study of communications, by and large this method (and related theory) was the purview of sociologists and – in a very different way – physicists and computer scientists. However, the networked nature of the digital media environment, and the digital traces available for study, have made social network analysis increasingly valuable. Again quoting Weber, “Social network analysis is a powerful tool for media researchers; it provides a methodological lens for studying interaction within the ecosystem of media.” Specific uses of this method are quite varied:

Social network analysis is particularly useful for understanding patterns that emerge in data..., for efficiently describing large-scale relational patterns and for understanding social relationships.... [It] provides an important perspective for studying media at multiple levels and in multiple modes.... It can be a useful tool for examining issues of influence and impact, or for understanding how various organizations impact the media ecosystem.... Social network analysis can also be used at the individual level,... as an important method for examining information networks, and for understanding the way that individuals interact with and consume media.... Generically, social network analysis provides media researchers with an important tool for examining the information map pertaining to a given topic, and for better understanding processes of information flow.

The data used in social network analysis can be, as Weber notes, identical to that used in more traditional approaches (i.e., surveys, content analysis, ratings analysis, aggregate archival records, etc.), but can also include data (often quite large) drawn from the digital traces of online social media. It can also be used inductively by revealing patterns and interactions not immediately obvious, or deductively, through its coupling with experimental designs (Becker, Brackbill, and Centola, 2017; Centola, 2018). Social network analysis can also be used to reveal and better understand patterns found in mediated content, and as unobtrusive measures of the attitudes, opinions, behaviors, and emotions that are hypothesized to be influenced by mediated communication, and that are more typically measured indirectly through opinion polls (Soroka, S., Young, L., & Balmas, M., 2015; González-Bailón, 2017; Foucault-Welles and González-Bailón, 2018). An additional quality of social network analysis is its ability to be used at a variety of levels of analysis, from individuals to organizations to whole media ecosystems.

3.5 Ratings analysis & audience ethnography

As should be clear at this point, understanding why people (as individuals or collectivities) consume certain media, and/or how media and their content influence

attitudes, beliefs, knowledge, opinions, and behaviors, requires first reliably and validly measuring what media they actually attend to. “Ratings analysis,” writes Thomas Ksiazek, is a central “method for capturing and measuring media exposure” that “underpins financial and strategic decision-making in the media industries”; is “used by related industries (advertising, marketing, political campaigns)”; and often serve as variables in academic research, “as both antecedents and outcomes, as well as general explanatory and control variables.” As much or more as the other methods discussed in this chapter (and volume), ratings analysis has had to adjust to changes wrought by the digital media environment, because of the explosion in media outlets, the ability of consumers to move easily and quickly within and across mediums, and perhaps most importantly, the gradual erosion of clear distinctions between media producers and consumers that leads at a minimum, to active audiences, and more radically, to the potential loss of “the audience” as useful concept.

Ratings analysis has attempted to address these changes through the development of technology-driven data gathering techniques that have responded to the changing environment and the resulting habits of people, and that, to the extent possible, passively gather individual-level data that captures a variety of types of media in a variety of settings. As Ksiazek notes, these include “people meters” that passively collect data on household television viewing, but requires that viewers correctly identify themselves to provide individual-level data; “portable people meters,” which are wearable devices that capture “inaudible watermarks that consist of identification codes by the broadcaster in the audio signal” (used largely for radio and out of home television viewing); and “set-top-boxes” (STBs), that “can provide click-by-click tuning data” at the household level (used for home television viewing and internet use). In addition, internet providers such as *Google* and social media companies such as *Facebook* and *Twitter* collect large amounts of data on their users and their behavior, though much of this data is proprietary. Even with these advances, however, only a fraction of people’s active and passive exposure to information can be captured, a task complicated by the rapid pace of change. Again citing Ksiazek:

[M]any households are engaging in cord-cutting (canceling their paid television subscription) or cord-shaving (reducing the number of channels in their subscription as a cost-saving mechanism). This further complicates the television landscape, as viewers are often replacing their over-the-air and cable viewing with subscriptions to video streaming services like Netflix, Hulu, and Amazon Prime. These subscription-based services are less interested in ratings because they are not ad-supported.... As for radio, satellite services (e.g., Sirius XM), podcasts, and internet streaming radio are complicating traditional approaches for capturing radio listening behaviors,”

He concludes that “there is a clear need for cross-platform integration in audience measurement. As users increasingly access content across a variety of services and devices, measurement needs to follow.” Similar challenges, that are only beginning to be addressed, exist for developing metrics that accurately describe the complex,

rapidly shifting, and cross-platform media diets of individuals and/or of collective audiences.

Further complicating ratings analysis is what Ksiazek calls “the engagement turn,” driven by the desire to “move beyond simple measures of exposure like ratings and capture something deeper about user experiences with media.” This development is driven at least in part by the interactive, immersive, and social nature of the digital media environment, an environment in which even legacy media must compete. Engagement, notes Ksiazek, includes behavioral, cognitive and emotional components, and metrics are being developed to capture each of them.

The longstanding and increasing use of ethnographic methods, often in conjunction with other quantitative and qualitative analytic approaches, to understand audiences and their engagement with media is discussed by John Carey and Bozena Mierzejewska. It is a method that “can study behavior from the ground” and “with greater depth” (though less generalizability) than probability surveys and large, representative data analyses such as audience ratings. As Carey and Mierzejewska note, the benefits of audience ethnography are threefold: “fresh insights about behavior patterns that previously were unknown; more in-depth understanding about patterns of behavior that have already been identified in other research; and documentation through photos and videos to provide emotive as well an analytical understanding of behavior patterns.” In addition, “Ethnography has strong face validity or believability about the people studied, even if generalizability is limited.” These qualities, always of value, are particularly useful in transitional moments such as the current one, in which as discussed in the previous section, existing theory may not be as clearly applicable or insightful as once thought. This utility is on display in Carey and Mierzejewska’s case study of television viewing in the digital era, which provides a number of fresh insights, in-depth knowledge of known behavior, and emotive and analytic understandings of behavior patterns.

4 Context

Mediated communication necessarily occurs in context; indeed it is the context that often problematizes the choice and applicability of theory, the choice and applicability of method, and the meaning and interpretation of findings. The various contexts in which communication occur are endless, but the eleven chapters in this section of the Handbook both capture many of the central areas of study, and serve as exemplars for the difficulties posed by the intersection of context and a changing information environment. Three telling themes emerge from these chapters: the difficulty in applying existing theories to specific contexts; the draw of qualitative methods in moments of uncertainty; and the complexity of findings that resist simple and generalizable interpretation.

4.1 The application of theory

Section two of this Handbook reviewed many of what are thought of as foundational theories in the study of mass mediated communication, assessing their applicability in the digital era. What is striking when we attempt to understand the causes, content, and influence of mediated communication in specific contexts is *how few of these foundational theories are explicitly drawn upon or even referenced*. This is not to say that theory is thrown aside. To the contrary, each of these chapters situates their topics within theoretical frameworks. But these theories are, with few exceptions, multiple, applied with caution, and often very different from those we think of as foundational to the Communication field.

For example, to Stuart Bender's chapter on media violence draws on aesthetic media theory, copycat and (along with Kirsten Drotner's chapter on children and media) social modeling theories, psychological theories of aggression, and cognitive media theory. Kevin Wright, in reviewing research on health communication, makes heavy use of the kind of social network theory reviewed by Weber, but expands his theoretical discussion to include optimal matching models, weak tie network theory, social information processing theories, the expressive writing paradigm, uncertainty management theory, diffusion of innovation, as well as several "traditional" health behavior theories and models. Klaus Bruhn Jensen and Rasmus Helles also draw on social network theory, but in ways that hearken back to Goffman, Durkheim, and Katz and Lazarsfeld. They also incorporate theories of media and technology (e.g., McLuhan), media and community (e.g., James Carey), and speech-act theory (e.g., Austin). Dana Mastro and David Stamps draw heavily on psychological theories on modeling, persuasion, stereotyping, exemplars, and perceptions of in-groups and out-groups in their overview of research in the context of race and ethnicity. Katie Ellis' chapter on media and disability is grounded in critical disability studies and constructivist theory. Minna Horowitz employs theories drawn from gender, feminist, and visual studies to explore the relationship between media and gender. Johanna Dunaway's overview of research on political advertising builds upon psychological theories regarding emotion and information processing. Maureen Taylor's overview of media development draws on theories emerging from this specific area of research, as well as other theories relating to nation-building, identity formation, communicative competency, and international economic and democratic development. Amit Schejter's review of media policy history and research draws on technology, economic, and legal studies, while also revisiting the "administrative" versus "critical" research debate. Lewis Friedland and Chris Wells' overview of "civic communication" draws on a historicized and contextualized foundation of collective and individual level theories (e.g., regarding community, civil society, the public sphere, civic culture, civic engagement, social movements, political socialization, social capital, social and political trust, post materialism, etc.) to trace the changing ways in which civic life and its relationship to the communication environment has been conceptualized

and studied over time. And Drotner, while acknowledging cultivation theory in her chapter on children and media, devotes significant attention to theory and research built upon a “culturalist paradigm,” and notes the importance of finding ways to integrate it with the more familiar “effects paradigm” of communication research.

4.2 The draw of qualitative methods

Just as the focus on specific contexts in which mediated communication takes place complicates and expands the theories we draw upon, so too does it seem to influence our epistemologies. To be sure, the mainstays of quantitative communication research – content analysis (Bender; Mastro and Stamps; Horowitz), surveys (Mastro and Stamps; Dunaway; Friedland and Wells), experiments (Bender; Wright; Mastro and Stamps), as well as newer forms on online social network analysis (Wright; Jensen and Helles; Friedland and Wells) – play a significant role in these overviews. But the uncertainties created by the digital media environment, and the nuances associated with distinct social, political, cultural, technological, and geographic contexts, also require more inductive, grounded empirical research of the kind qualitative methods are particularly suited for. These include various forms of qualitative textual and discourse analysis (Bender; Ellis; Horowitz), case studies (Taylor; Ellis; Friedland and Wells), historical analyses (Jensen and Helles; Friedland and Wells), and institutional research (Schejter; Friedland and Wells).

More broadly the current moment requires a greater awareness of the long but often distinct traditions of what Drotner calls the “mainstream media effects” and “culturalist” paradigms, and the need for greater dialogue and even collaboration across these traditions. Drotner’s observations regarding recent “transformations in research on children and media” that are emerging at least in part from “recent encounters between the two paradigms, encounters that are chiefly borne out of deep changes in children’s media practices” could (or more aptly should) apply to all areas of mediated communication research.

4.3 The difficulty of generalizing

A third theme emerging at least implicitly from these chapters is the difficulty in drawing conclusions that would clearly apply in similar contexts, let alone across different contexts.⁴ This is due in part to the always existing complexity of mediated

⁴ The clearest exception is Mastro and Stamps, who conclude that “despite limitations, a number of important conclusions can be drawn from the overarching body of research examining issues of

communication as we move from the general to the specific, but is clearly exacerbated by the uncertainties and additional complexities resulting from the digital media environment.

For example, Bender, quoting from Huesmann, Lagerspetz, and Eron, notes that the “psychological literature does appear to support a multiprocess model in which violence viewing and aggression affect each other and, in turn, are stimulated by related variables,” but concludes that “In general, the scientific research provides inconclusive results in its answer to the question of whether or not mediated violence impacts on human aggression and actual violence.” Wright concludes his chapter with a long and thoughtful list of what the health communication field must do before it can “demonstrate that the effects [of] exposure to online information/messages and online interactions have consequences in terms of real-world health behaviors.” Ellis, while noting that “two strong traditions” can be found in research on disability and communications (the identification of stereotypes and the ways disability is used to structure narratives), goes on to list a number of questions – “How do blind people watch television for example, or read newspapers? How do D/deaf people listen to the radio and experience the audio component of audio visual media? And what happens when these alternative formats are made available to, and embraced by, the mainstream?” – that the dominant model “fails to take into account.” Horowitz ends her chapter on gender and media noting that “Despite the vast scholarship, approaches to gender and mediated communication are still needed, and evolving.” In assessing research on political advertising, Dunaway notes that “Even if scholars had perfect measures of individual-level ad exposure, they still must grapple with the fact that ad effects are likely conditional, small, fleeting, and thus difficult to detect.” Taylor ends her chapter on media and development noting the potential of social media, the fact that “Traditional media development assistance programs have recently begun to include social media components” and that “[s]ome civil society support programs are devoting resources to empower citizen journalists, bloggers and regular citizens who are interested in participating in their community’s information ecosystem,” but (thus far) with few generalizable conclusions regarding the efficacy of these efforts. Schejter notes that the incorporation of research into the design and implementation of media policy and regulation has been “more or less successful” though the “extent of its impact is not uniform.” Jensen and Helles’ review of mobile technologies challenges and collapses many of our existing categories, concluding that “Mediation is material, discursive, as well as institutional. Each medium, including embodied humans, mediates in all of these respects; different media afford different kinds and degrees of mediation in each of these respects, which makes each medium

media and race/ethnicity. Foremost among these is that both the quantity and the quality of media representations are critical to outcomes associated with media use – with effects varying in-line with the nature of the characterization.”

a distinctive social resource.” Friedland and Wells demonstrate the extent to which the theory and practice of civic engagement and civic life is both time and context dependent. And Drotner writes that “The effects paradigm and the culturalist paradigm outlined above in many ways ask complementary questions, and so their combined answers would seem to offer a full picture of children’s relationship with media. Yet, this full picture has not emerged, and it is not likely to emerge in the near future.”

5 Contemporary issues

The digital media environment not only raises challenges and opportunities for existing areas of mediated communication research, but also brings to the fore new or radically changed substantive and methodological areas of inquiry. The chapters in the “Contemporary Issues” section of this volume address a number of such topics.

5.1 Algorithms, big data, and the role of theory

Two of what are arguably the most unique theoretical and applied qualities of the digital information environment are its dependence on new and often unaccountable and automated “gatekeepers,” and its production of vast amounts of opinion and behavioral data.⁵ Caplan, in her chapter on algorithmic culture, notes that as

large information intermediaries, such as Google, Facebook, Baidu, and Twitter, take on a larger role in the production, distribution, and circulation of information, algorithms that filter and categorize this content have become an important area of inquiry for media researchers.... These scholars are not only seeking to understand the mechanisms behind algorithmic filtering – or how different types of algorithms work – but they are also working to highlight *why* algorithmic filters have come to prioritize or de-prioritize certain types of content.

Underlying these efforts are concerns that such filtering mechanisms “are leading to negative social impacts, such as filter bubbles and echo chambers,” can be “easily manipulated for financial and ideological aims,” and give large and unaccountable “information intermediaries like Facebook and Google, significant power in determining what content should or should not be allowed online.” In addition, the use of algorithmic filtering for information delivery, and for individual and collective decision making, goes beyond these global social media platforms and search engines, and has “become ubiquitous, being used across almost every sector and industry,”

⁵ To these I would add its networked structure, a characteristic discussed in the earlier chapter by Weber.

including the criminal justice system, the education system, arts and entertainment, commerce, and politics.

As Caplan documents, this new state of affairs has generated an emerging strand of research aimed at better understanding the political, economic, and social implications of “algorithmic culture,” in the hopes of strengthening its positive implications and limiting its negative ones. This effort requires a combination of existing and new research skills and expertise, and is complicated by both the opacity of algorithms and how they are constructed, as well as the limited knowledge of what algorithms are and how they operate on the part of (some) researchers and the public alike. At the same time, efforts (partially informed by research and led by scholars) to increase the digital literacy and computational thinking of users, the transparency of algorithms, and the industry or state regulation of their use, are also at various stages of development and debate.

A second important characteristic of the digital information environment that raises new possibilities and concerns for both the study and practice of mediated communication is its ability to produce massive quantities of opinion and behavioral data. The theoretical, methodological, and normative implications of “big data,” and the emerging techniques for analyzing them, are unpacked in the chapter by Merja Mahrt. While the term itself is not easily defined and, as a result, eschewed by many scholars, Mahrt notes that in general big data refers to data that is “huge in *volume*,” “high in *velocity*,” “diverse in *variety*,” “*exhaustive* in scope,” “fine-grained in *resolution*,” “*indexical* in identification,” “*relational* in nature,” and “*flexible*” in its ability to be extended and/or scaled up. It is also, as Mahrt notes, often “messy” in that it can “for instance, contain incomplete information and large numbers of errors or fail to perfectly align data points because parts of the data stem from different sources.”

As with the study of algorithms, computational science methods for gathering, cleaning, and analyzing big data require new technical skills drawn from fields such as computer science and even physics. Indeed, as Mahrt notes, the “availability of big data for research purposes” has led some scholars “to predict a crisis of traditional methods of data collection and analysis.” Perhaps more profoundly, the combination of big data and computational science has challenged not only existing theories, but the very role of theory itself. Mahrt highlights this point by noting arguments that “big data would make traditional ways of doing research, and with it, theory, obsolete.” She also points to the 2012 “closing plenary of the annual convention of the International Communication Association,” which was dedicated to ‘the end of communication theory as we know it’ due to the Internet and big data.”

Not surprisingly, how significant, beneficial, or problematic the turn towards big data is has been hotly debated with strongly held views on all sides. Proponents point to the advantages for researchers provided by the eight qualities of big data listed above. Skeptics are concerned about the decontextualized, inductive, and descriptive nature of the research produced, the difficulty in assessing the quality and representativeness of data, limits in our ability to use computational methods to uncover

the latent meanings in the data, data access, and ethical concerns regarding privacy, anonymity, and consent. Consistent with many of the chapters in this volume, Mahrt concludes that the future of mediated communication research remains uncertain, and dependent on the relationship between quantitative and qualitative approaches:

Following Kitchin's (2014) assessment of big data for 'new epistemologies and paradigm shifts,' its future role in communication science will likely depend, on the one hand, on how well it can be integrated with the discipline's long-standing notions of what makes for valuable research. How researchers ask questions and design studies has developed over time and influences how new approaches are evaluated – and ultimately adopted or rejected. Some of the cited discussions of big data, for instance, are clearly marked by the well-established juxtaposition of quantitative versus qualitative approaches (Brooker, Barnett, and Cribbin 2016; Mathieu et al. 2016). The future will show whether such divides will be re-opened or deepened through big data or whether the combination of methods (as advanced, e.g., by Karpf 2012) may even help to further reconcile both sides.

5.2 Mitigating the negative consequences of mediated communication in the digital environment

By its very nature, change creates both potential positive and negative consequences. As researchers and as citizens, our scholarship is often aimed at pointing out the latter, and suggesting ways of addressing it. Three such potential concerns are addressed by the chapters in this section of the volume – the digital divide, information diversity, and media illiteracy.

Martha Fuentes-Bautista and Christine Olson explore the causes and consequences of “the digital divide” – that is, the inequitable way that digital technologies have spread and been used both within nations and globally. Their analysis is “informed by debates on critical information needs of communities which recognize the value of digital inequality studies in assessing the mechanisms and impacts of exclusion from contemporary media ecologies,” doing so using “a human development and capability approach (HDCA).” Their review of extent scholarship leads them to conclude that while significant advances have been made, “digital divide research still straddles between concerns with technological diffusion and analyses of factors that perpetuate uneven access and use.” Future research, they argue, should include “multi-faceted and multi-level analyses which attend to the interaction between social conditions and modalities of access, stratification of Internet use, and social purpose and benefits of these pursuits – particularly for marginalized populations.” In particular, they point out the need for research that “deepen the analysis of how social dynamics of media and information ecologies (e.g. family, peer-group influence, informal learning environments, etc.) expand or constrain communicative capabilities in areas critical for social inclusion (e.g. education, health, politics, etc.);” expanding “the agenda of research... by focusing on the interactions between

micro-, meso- and macro-level variables;” and developing public policies based on “more coherent and sustainable models that integrate supply and demand interventions to bring effective solutions to digital gaps.”

Starting from the premise that encountering and engaging with diverse ideas is a necessary component of democracy, and even of human progress more generally, Natali Helberger and Magdalena Wojcieszak explore what we know regarding the impact of contemporary mediated communication on exposure diversity. Noting the unique structural and individual challenges posed by this environment (e.g., “the multiplicity of sources and content;” individual predispositions that, in conjunction with greater choice, can influence exposure; and technological realities such as the use of algorithms discussed in the Caplan chapter), they identify five overlapping strands of research: the facilitation of selective exposure, filter bubbles, and opinion polarization; the effects of exposure to diverse views on opinion formation and public engagement; the “the various factors that drive media choice in general, and exposure to diverse and dissimilar content in particular;” the role of technological innovations in increasing or decreasing exposure to diverse information; and the design of “evidence-based policy responses [to the negative consequences of the current media environment] and ways of creating favorable conditions for not only diversity of supply, but also diversity of exposure.”

In what should by now be a familiar refrain, their review of the literature suggests that “we are only beginning to understand” the impact of the digital media environment on diversity exposure. What is needed is “a comprehensive model that explains the antecedents and the consequences of media diversity/dissimilar exposure,” that will help answer questions such as “What are the conditions in which media diversity and dissimilar exposure backfire?” and “For whom, when, and where do they bring democratic benefits?” “Addressing these questions,” they conclude, is imperative before we fuel resources to confront media users with the ‘different,’ and will require “normative-empirical approaches.”

The complexity of the digital information environment has also raised entirely new issues regarding media literacy, an environment in which, as Eun-Mee Kim, notes, we increasingly “live ‘in’ the media rather than ‘with’ the media.” As a result, “Media literacy has become a necessary life skill in our contemporary society.” Indeed, we are in what Kim calls “a tsunami” of media-related literacies that citizens increasingly need, making it difficult to “systematically conceptualize and measure the concept of ‘literacy.’” Further complicating this research is the distinction between “media literacy” (traditionally defined as knowledge and skills related to reading and writing), “communication competencies” (knowledge and skills related to speaking and listening), and “mediated communication competencies,” or “digital literacy” (knowledge and skills related to computer and other technologically mediated exchanges). In addition, there are philosophic differences in approaches that emerge from more deep-seated divisions between a media effects tradition that emphasizes the need to protect consumers (especially youth) from the negative influence of the media, a

media education tradition that emphasizes the potential of media to empower citizens as both media consumers and producers, and a critical tradition that focuses on the larger historical, political, and structural conditions in which citizens produce and consume media.

As Kim further notes, despite the overlap among these concepts and approaches, “research studies in each area rarely discuss the works dealing with the other, nor do they mention the commonalities between” them. This relative lack of cross-fertilization is particularly problematic in the current media environment, which fundamentally changes the opportunities and challenges – and thus the literacy needs – of citizens. While inroads are being made, most research continues see the relationship between citizens and media “as an informational rather than a communicative one, despite the fact that the convergence of the two has been an on-going fact for decades.”

5.3 Media systems and social movements

As Regina Marchi reminds us, media and social movements have always been intertwined in a “symbiotic and sometimes antagonistic relationship.” From the perspective of a movement’s leadership, the value of media coverage has traditionally been “raising public awareness,” “promoting a sense of collective experience and/or moral responsibility that encourages sympathy for a movement,” “legitimizing movement demands,” and “keeping a movement in the public eye for sustained periods of time.” But, as exemplified in the research and case studies summarized by Marchi, mainstream media coverage of social movements – especially those perceived as radical rather than reformist – has been a double-edged sword. The representation of movements through “common news farming devices” such as “trivialization,” “polarization,” “marginalization,” “undercounting,” an “emphasis on internal dissension,” and “disparagement of a movement’s effectiveness,” can be devastating for social movements, “attracting new members who may not share the original organizers’ goals or values... portraying activists’ claims as unreasonable... or framing social movements within a ‘nuisance paradigm’ where protesters are depicted as bothersome, ineffective and unpatriotic.” In the past, social movements’ primary alternative to the mainstream media had been the “alternative media,” defined as media outlets and formats devoted to “social and political action that strives for a more equitable social, cultural and economic whole” by countering “the dominant messages of the mainstream media.”

Mediated communication in the digital age has arguably loosened the “make or break” power of mainstream media since social movements “can now interact directly with the public via social networking technologies.” In addition, digital ICTs “now provide various functions that are vital to social movements, such as fundraising, training, and recruitment. Indeed, they provide the very organizational structures of

movements, including decentralized campaign networks, interactive calendars and discussion forums, and the crowdsourcing of ideas or services in ways that connect diverse and geographically dispersed activists.” How profound these changes are remain a matter of debate, however, with Marchi noting continued concerns regarding the digital divide, the absence online of “strong ties” that are arguably crucial to social movements, the shortcomings of vertical and virtual vs hierarchical and physical organizational structures, and the use of digital technologies by governments (e.g., through surveillance), on the one hand, and counter-movements (e.g., neo-Nazis) on the other, in ways that can challenge a social movement and “weaken practices of democratic expression and civic engagement.”

The digital media environment also appears to be broadening definitions of civics and citizenship,” with political activism being expressed in ways ranging

from traditional activities such as voting, protest marches, boycotting, volunteering, or circulating political petitions to lifestyle politics, the online sharing of files and links, or the online petitioning by fans of music, movie, television or gaming companies. Recent research has pointed to the ways that participants in playful online communities or “participatory cultures” (such as gaming sites or fan sites) can develop the “civic imagination” useful for engaging in offline politics and meaningful social change (Jenkins et al. 2016; Kligler-Vilenchik 2016). Moreover, the online sharing of photos, news stories and links that individuals feel others should know about is increasingly a way that young people express solidarity and bring into being the publics or counterpublics necessary for collective political action (Clark & Marchi 2017).

This emerging form of participatory politics and culture is characterized by a shifting, networked structure that foregrounds the importance of the personal and the affective, and that emphasizes “the ways that online communicative acts constitute relationships between people that are vital in organizing for political change.” As Marchi notes, these new forms of engagement and what they mean for the development and maintenance of social movements are “best seen not as a replacement for but rather a compliment to on-the-ground social movement organizing work.”

6 Concluding thoughts on the future of mediated communication research

No one volume can adequately summarize an area of scholarship as diverse as mediated communication, and no one chapter can say with certainty what the future holds for its study. Nonetheless, several consistent and suggestive themes emerge – within the chapters and sections of this volume as well as across them – that serve as signposts for where we have been, where we are now, and where may, or perhaps *should* be, be heading. My reading of these signposts suggests the opportunity to use the theoretical, methodological, and substantive diversity of past research, coupled with the current changes occurring in the information environment, to “triangulate” what

we know (or at least agree on), what we do not know (or disagree on), what we need to know going forward, and how best to get there.

6.1 Learn from, but don't romanticize (or villainize) the past: Theoretical triangulation

Moments of disruption such as the one we are now witnessing inevitably generate speculation regarding the promises and perils that may await both the practice and study of communications. In the case of practice, this is captured, for example, in arguments regarding, on the one hand, the democratic and liberating potential of the digital media environment, and on the other, its darker side of manipulation, surveillance, and echo chambers. Too often, however, such arguments are made in comparison to unrealistic or overly simplistic views of what preceded recent changes. The more centralized pre-digital era and its clearer separation of mass mediated and interpersonal communication, of public affairs and popular culture, of fact from opinion and fiction, and of information producers from information consumers carried with it both benefits (e.g., a shared sense of community and purpose based on shared information) and costs (e.g., the invisibility or misrepresentation of issues and people unable to gain access to the public “soap box”). Understanding the practical and normative implications of mediated communication in the digital age requires a nuanced understanding of what worked and what did not in the past.

As scholars, we face a different challenge. In debating the continued utility of prior theory and the research, it is crucial that we are honest with ourselves about what we have actually learned over the past decades. As is clear from the chapters in this volume, this record, while significant, is mixed at best. The theories upon which we have based our research (and the empirical findings emerging from them) are so varied and context dependent as to raise as many questions as they answer. Indeed, a review of mass communication research from 1956 to 2000 found references to “604 different theories, general scientific paradigms, and schools of thought that have been developed by communication scholars or imported from scholars in various cognate disciplines” (Bryant and Miron, 2004: 664)! Given this, the challenge we face going forward is not simply to see if past theories and findings still apply, but to assess our current knowledge, put them in conversation with each other (i.e., triangulate), and determine whether the emerging digital era affords the opportunity to develop a smaller, more parsimonious yet adaptable set of theories of the kind called for in many of this volume's chapters. What such a theory or theories might look like, whether or not it is possible, and even if its pursuit is wise, remain unanswered questions, but questions worthy of serious discussion and debate.

6.2 Embrace methodological innovation and diversity: Methodological triangulation

If the future of mediated communication research points to the possibility of more parsimonious theory-building, it simultaneously points to the need for more innovative and diverse research designs, methods, and data. Indeed, it is only through methodological triangulation that we can begin to know if our theories can truly explain the phenomena and relationships of interest. The existing quantitative mainstays of surveys, experiments, and content analysis, and qualitative ones such as depth interviews, ethnographic field studies, and textual/discourse analyses, while undergoing various degrees of adaptation in the digital era, will clearly remain central to this endeavor. In addition, significant progress is being made in the development of newer methods, including ways of exploiting the availability of the unobtrusive measures provided by various forms of big data; computational science methods; virtual ethnography; the adaptation of social network analysis to the digital world; and even the use of brain imaging to better understand the way information is processed. And the use of multi and/or hybrid methods (e.g., surveys and experiments; brain imaging and observational studies; mathematical models and online experiments; etc.) appears to be on the rise.

But more is needed in this regard if we are to progress in our understanding of mediated communication. Particularly valuable in this regard would be greater dialogue, and ideally greater collaboration, both within and across qualitative and quantitative methods; more and more coordinated efforts to replicate and compare findings within and across different methods; collective efforts to gather, store, and share data; and long-term studies that can more fully and subtly assess both the constantly and rapidly changing nature of the mediated information environment and its consequences.

6.3 Contextualize theories and findings: Contextual triangulation

One of the complicating factors of the mediated communication environment is its simultaneous convergence (e.g., of interpersonal and mass mediated communication; of information producers and consumers; of local, national and global communication networks; etc.) and fragmentation (e.g., of content, sources, and audiences). While the former provides the opportunity for the development of a limited number of broadly applicable theories and generalizable findings, the latter presents, or at least makes more visible, a challenge to this endeavor; a challenge further complicated by the rapidly changing nature of the digital information environment itself. But it is a challenge we must face if we are to make any claim to a systematic understanding of mediated communication. Continuing with our past approach, documented in this

volume, of breaking into more and more silos, with their separate scholars, methods, objects of inquiry, theories, findings, etc., seems unlikely to bring about the kind of collective knowledge that we seek.

But what might a new approach look like? The answer lies, I suspect, in embracing the importance of context in both our theories and our research, but doing so in a way that, as Edy suggests, explicates “broader patterns of influence generated by lasting features of the environment” and offer a “more lasting understanding of the factors that influence” the structure, content, and influence of mediated communication. In essence, just as we should triangulate *theoretically* and *methodologically*, so to should we triangulate *contextually*. Only in this way will we know the reach and limits of our theories, and even if the search for fewer but more broadly applicable theories is possible.

6.4 Treat the emergence of new issues as both substantively and theoretically important: Substantive triangulation

As the chapters in this volume make clear, the digital media environment not only presents new challenges to existing theory and research findings, but raises new areas of inquiry. The risk of this is that it creates additional theoretical, methodological, and substantive silos that are simply added to the already crowded field. Understood properly, however, these new research questions can serve as yet another opportunity to test the efficacy of existing theories and, ideally, contribute to our development of fewer, more substantively and contextually applicable, meta-level theories; that is, to provide a fourth form of triangulation by testing, refining, and possibly rejecting existing theories, and/or developing new ones with greater generalizable explanatory power.

6.5 The best way to predict the future is to invent it

What should be clear from the chapters in this volume, and my interpretation of them, is the need for a serious “audit” of our field, and the opportunity presented by the current convergence (in the information environment and how we conceptualize it as scholars) captured by the term, “mediated communication”. What should also be clear is that to take full advantage of this moment, this audit needs to occur both within and across the numerous silos we have, for defensible reasons, created over the past decades. Boundaries based on methods; units and levels of analyses; substantive areas of inquiry; disciplinary roots; mass and interpersonal communication; inductive versus deductive epistemologies; applied, basic and normative research;

geographic region; and so on, while important and perhaps even necessary, can work against knowledge development if enforced too strongly.

In calling for this kind of audit, I am *not* suggesting that we follow the path of other social science disciplines and subfields by artificially enforcing norms as to what constitutes acceptable objects of study and ways to study them, or by marginalizing researchers who do not conform to the mainstream. Our substantive and methodological diversity is a strength, and mediated communication is so embedded in every human activity as to make it necessarily wide ranging. My suggestion is more modest – that we go beyond tolerating our diversity, and more seriously and collaboratively engage in learning from it. Such an effort may not produce consensus, but it almost certainly will be informative regarding, as I stated earlier, “what we know (or at least agree on), what we do not know (or disagree on), what we need to know going forward, and how best to get there.”

Finally, in thinking about the future of mediated communication, it is important to remember that we have agency, as citizens-scholars, in what it looks like. As Kay reminds us, “The best way to predict the future is to invent it.” Put another way, our theory and research should focus not only on what *is*, but also on what *is possible*.

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