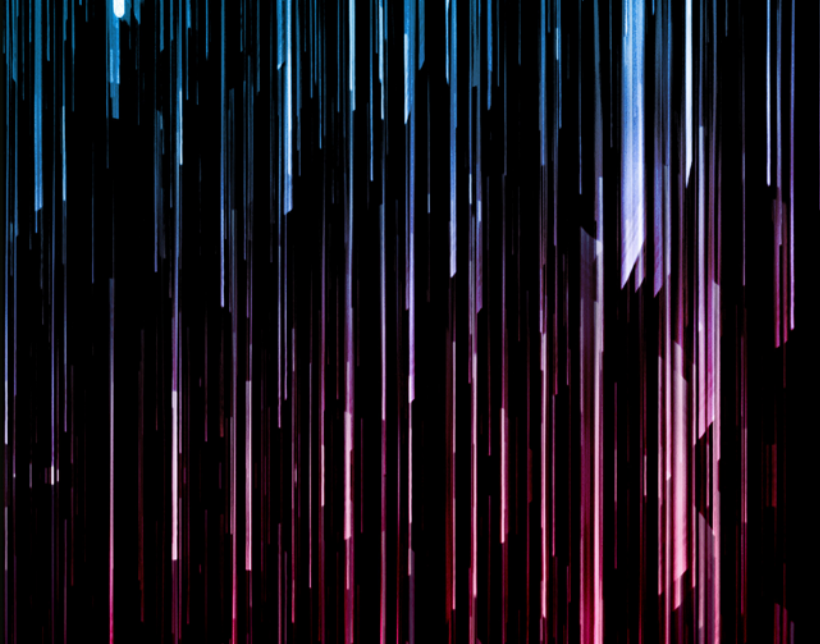

COMMUNICATING SPECIALIZED KNOWLEDGE

Old Genres and New Media

Edited by Marina Bondi, Silvia Cacchiani and Silvia Cavalieri

Communicating Specialized Knowledge

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CHAPTER ONE

COMMUNICATING SPECIALIZED KNOWLEDGE: INTRODUCTION AND OVERVIEW

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1. Communicating Specialized Knowledge: An Introduction

"Communicating Specialized Knowledge: Old Genres and New Media" was born out of the idea that domain-specific knowledge has two major dimensions to it: on the one hand, peer-to-peer communication that is primarily intended to further research within the disciplines; on the other, asymmetric communication of selected, 'filtered' knowledge to lay people.

Importantly, communicating specialized knowledge involves the construction, presentation and communication of knowledge (Kastberg 2010; Ditlevsen 2011) in texts that effectively adjust to the knowledge background, knowledge- and personality-related needs of the intended addressees within the relevant communicative setting. In this context, research in Languages for Specific Purposes (LSP) has made important contributions to the study of 'internal', peer-to-peer communication in traditional genres and remediated and emergent online genres. Working at the interface of theoretical and applied linguistics, specialized lexicography or terminology, and primarily taking genre-oriented and corpus-analytical approaches, LSP scholars have identified a number of recurrent features as broadly characterizing specialized communication in several domains of expertise. To name but a few: terminology, lexical density, extensive recourse to nominalization and modification within the noun phrase, frequent use of the passive voice and syntactically complex clauses, genre- and domain-specific metadiscourse and hedging.

The very same features, however, might hinder ‘domain-external’ communication and the ability of experts and professionals to reach out to lay people. This remains a problem that commands scholarly attention in the context of the cultural growth and socio-economic development of contemporary society at large. Taking inspiration from seminal work like Linell (1998) and Calsamiglia and van Dijk (2004), therefore, the focus of LSP studies has recently broadened to cover the merits and demerits of knowledge dissemination and popularization strategies in domain-specific discourses (cf., e.g., Henriksen, Frøyland 2000; Gotti 2014; Garzone, Heaney, Riboni, eds. 2016; Bondi, Sezzi 2017; Salvi, Turnbull, eds. 2017; Engberg et al., eds. 2018).

There are several reasons why experts should deliberately carry relevant parts of their specialized knowledge outside of their expert discourse communities and make them accessible to non-experts (adapted from Henriksen, Frøyland 2000; Allan 2002). Access to knowledge is a public good for all (UNESCO 2005). First, citizens interact with domain-specific texts on a daily basis (e.g., bank statements, tax reports and patient information leaflets). Additionally, domain literacy can earn citizens a better job while benefiting the nation as a whole. For instance, promoting financial literacy may help curb blind investments and prevent damage to individual households and the nation. In that sense, effective knowledge dissemination works towards empowerment of lay people, social inclusion and equality in the participation domain. As exposure to information in the digital world continues to grow, questions concerning the discursive strategies and the pragmatics of knowledge dissemination will continue to arise. For instance:

- against the backdrop of landmark publications such as Scollon and Scollon (1995), Linell (1998), Calsamiglia and van Dijk (2004) or Gotti (2014), questions about recourse to linguistic knowledge dissemination strategies (cf., e.g., Bondi, Cacchiani, Mazzi, eds. 2015);
- based on classics such as Barthes (1977 [1964]), Kress and van Leuween (2010) or Bateman (2014), issues concerning text/image pairs, multimodality and hyperstructural features in hyper-multimodal environments (cf., e.g., Lemke 2003; Engberg, Meier 2015), also in relation to web-page usability (e.g., Nielsen 1999; Farrell 2014; work by their associates at NN/g);
- questions about roles and relationships, social maneuvering and knowledge control in relation to the knowledge-oriented and personality-related needs of participants in and beyond the relevant

speech community and community of practice (Lave, Wenger 1991; Wenger 1998), also with an eye to the extended participatory framework of the web (e.g., Jenkins et al. 2006; Herring et al., eds. 2013);
- questions about relevance and credibility, reputation and trust (e.g., Petitat 1998, 2004; Marková et al. 2008; Luhmann 2014; Bromme, Jucks 2018).

2. Overview of the Volume

Using the tools of genre studies and corpus linguistics, the present volume takes the reader on a journey in and outside of disciplines and field domains like medicine and health, corporate communication, cultural heritage and tourism. Our research question is twofold. At the domain-internal end of specialized communication, what is at issue is the transfer of high-quality information (innovative research results) to peers and professionals. On the domain-external dimension, we acknowledge the significance of knowledge availability and knowledge accessibility outside scholarly circles and disciplinary communities (cf., e.g., Engberg et al. 2018). The question of interest, therefore, is one about 'intercultural communication' (Scollon, Scollon 1995), recontextualization (Calsamiglia, van Dijk 2004) and reformulation (Gotti 2014), or 'intralinguistic translation' of selected expert knowledge that is assumed to be relevant to the knowledge-oriented needs of different types of lay audiences in asymmetric contexts. The long answer will emerge as the following 11 chapters unfold.

Section I concentrates on *"Communicating specialized knowledge in and about health and medicine"*. Particularly, in Chapter 2 MICHELE SALA and STEFANIA CONSONNI compare and contrast *"Titles in medicine and science popularization"*, with the purpose of tracing the strategies typically used in online magazines of science popularization to effectively synthesize contents in terms of both clarity and impact. As a matter of fact, given their metatextual prominence, titles perform an important popularizing function in that they have to be informatively dense, yet transparent (rather than allusive). They have to include key elements with respect to the associated articles in order to function as an efficient retrieval device (i.e., containing semantic handles useful when browsing text archives), and to establish expectations and the interpretive paradigm for the ensuing text. Based on a corpus of articles published over a two-month period (July-August 2015) in the medicine section of the online magazines *Science Daily* and *Scientific American*, the authors identify the most typical devices used to conflate complex contents into a (relatively) short sentence, facilitate comprehension without altering or banalizing meanings, and appeal to the lay reader.

Chapter 3 shifts the focus onto *"Filling gaps in medical knowledge: Comparative mechanisms in evidence-based medicine"*. The author, RENZO MOCINI, presents results from a study of comparative reference (Halliday, Matthiessen 2004; Breban 2010) as a major tool for knowledge construction and communication to practitioners in medicine. Quantitative and qualitative corpus investigation suggests that while evidence is conceptualized within a comparative framework, comparison is also largely employed as an effective reader-oriented strategy to structure discourse and facilitate interpretation. Comparative items are associated with interpersonal and textual meanings and used to foreground the role of the writer as the author, who intends to fill pre-existing information gaps while fostering the transfer of significantly meaningful evidence into health-care practice. That is, they represent a viable strategy for communicating knowledge and perspective from scholars to professionals 'in the field', with different expertise within the same community of practice (Lave, Wenger 1991; Wenger 1998).

In Chapter 4 – *"The dissemination of dietary treatments for refractory epilepsy: A preliminary analysis of web-based discourse on the ketogenic diet"* – SILVIA CAVALIERI moves to the popularizing end of knowledge communication, at the interface with health literacy (Muñoz Miquel 2012; Briones 2015). The chapter presents preliminary research carried out within a larger project aimed at exploring health literacy while liaising with caregivers. The purpose is to analyse the strategies employed for the dissemination of medical knowledge about the ketogenic diet to caregivers dealing with the web-based informative materials of two major UK and US foundations – the *Matthew's Friends Foundation* (https://www.matthewsfriends.org) and the *Charlie Foundation* (https://charliefoundation.org). Several strategies (Calsamiglia, van Dijk 2004; Gotti 2014) are identified, including scenarios, hypothetical interactions and exemplifications, which work towards the concretization of abstract information. Also important is the engagement factor: it is found to play a major role in instructions, which make recourse to the second-person pronoun and inclusive *we.*

In the same vein, Section II deals with *"Communicating specialized knowledge in and about business and finance"*. Chapters 5 and 6 bring to the fore aspects of citizens empowerment and knowledge communication as a prerequisite for informed decision-making in connection with finance and corporate communication. Crucially, they cannot in any way be set apart from stance taking and self-promotion. Chapter 5, authored by CHIARA PROSPERI PORTA, considers *"Comparative mechanisms and relations in the dissemination of institution-centred financial knowledge"* and, more specifically, the uses and functions of comparative forms (Huddleston 2002a, 2002b) in the annual reports published in English by the European Central Bank and the National Bank of Greece (years 2010-2015). The texts swing between presenting information and facts for knowledge dissemination purposes and providing angle and perspective to different effects – for instance, in order to assess events and situations or legitimize actions and moves made by the principal (sensu Goffman 1982) organization (here, either bank) or other entities. When it comes to the unsatisfactory performances and dire situation of Greece's central bank, however, superiority markers are used to bring failure into the background and highlight any possible improvement, however small. Additionally, markers of equality are systematically used to signal alignment, in an attempt to reconcile Greek performances with the EU economic policies and standards, while comparative governors reflect an interest in minimizing the gap between standards and reality. In a slightly different manner, the expression of likeness in the ECB corpus goes hand in glove with self-awareness and commitment in guiding Member States to uniformity, while unlikeness discursively contributes to signaling institutional dominance.

Factual information and evaluative language (Hunston, Thompson, eds. 2000) combine to depict the principal organization and legitimize their actions in a vast array of traditional and online specialized genres. In this context, Chapter 6 turns to *"Developing corporate identity via companies's websites"*. Using data from the English websites of five Italian companies working in the renewable energy sector, EMANUELA TENCA argues that the overall macro-function of the websites – promoting the principal's image internationally and showcasing products and services both to experts and non-experts – is effectively served by an interesting combination of terminology, factual information and positive evaluative vocabulary. As a matter of fact, in the challenge to construct a positive identity around the five companies, at times evaluation tends to be marginalized by the provision of factual information and the overriding need to show ground-breaking expertise regarding products and services. This is key to enhancing credibility and consolidating reputation.

In Chapter 7, CECILIA LAZZERETTI shifts the attention from promotion and identity branding in the renewable energy sector to identity branding in museum websites. The chapter, on *"Museums and architectural identity: An exploratory study of museum web texts"*, starts our reflection on *"Communicating specialized knowledge about cultural heritage and the arts"* (Section III). Working on the assumption that architecture is a relevant component of the marketing strategies applied to evaluate the brand appeal of a museum's collections and exhibitions, the author turns to 'museum web texts' as multimodal tools that are key to composing, developing and communicating a museum's public image (Pierroux, Skjulstad 2011). The main emphasis lies on the communication and representation strategies adopted by professional authors in order to establish the architectural identity of the museum on selected pages of two multi-site museum networks – the *Tate* family of museums and the *Guggenheim* constellation – so as to identify the distinctive textual features, evaluative devices (Thompson, Hunston 2000; Martin, White 2005) and discursive practices through which museums establish their architectural identity. While the focus is on language, the unequal status of text and images (Barthes 1977 [1964]) is also taken into consideration and images shown to expand and enhance the text (sensu Martinec, Salway 2005) besides making it more attractive (sensu Bateman 2014). Overall, data analysis suggests that architectural discourse can significantly contribute to branding the public image of the museums under investigation, asserting values of innovation, transformation, or continuity with the past.

Still staying with cultural heritage and the arts, the following two chapters turn to intralinguistic translation, knowledge dissemination strategies and cross-generational communication in tourist guidebooks and museum webpages for kids. In Chapter 8 – *"Knowledge dissemination through tourist guidebooks: Popularization strategies in English and Italian guidebooks for adults and children"* – GLORIA CAPPELLI and SILVIA MASI compare and contrast the popularization strategies at play in English and Italian guidebooks for adults and children (Calsamiglia, van Dijk 2004). Some noticeable differences are found cross-linguistically in guidebooks for adults and are readily understood as an evident expression of different communicative preferences and cultural orientation (Hofstede 1991). Crucially, it appears that, in order to create and enhance accessibility to new information, English tends to rely on the strong integration of various semiotic codes for edutainment (Buckingham, Scanlon 2003). Italian, on the other hand, seems to prefer detailed verbal anchoring to the reader's background knowledge and experience for formative experiences. While some of the distinctive features of the genre are preserved in Italian guidebooks for kids, however, such differences are significantly levelled out in guidebooks for children, which display a tendency towards simplification and informality in both English and

Italian. One plausible reason for this are similar assumptions on the knowledge- and cognitive-oriented needs of the intended age group (Myers 1989). Another, equally convincing reason is that Italian guidebooks for kids, a relatively new genre, were translated from English, hence retaining part of the features of the source texts. In fact, the analysis of parallel texts shows the systematic transfer of patterns such as a varied range of reformulation interventions, mainly through the addition of metalinguistic explanations, recontextualisation through different types of replacements, and substitution, not to mention the complementary relation between different semiotic codes.

ANNALISA SEZZI's *"Go on Art Adventure: Popularising art for children through museum websites"* (Chapter 9) takes the lead from the previous two chapters and brings to the fore the innovative popularization strategies adopted to engage and inform children aged 5-12 on the *Tate Kids* website, hosted and developed by the *Tate* family of museums. Besides the strategies typically adopted in popularization for adults (e.g., denominations, definitions, or paraphrases that adjust to children's cognitive skills, experiential and general knowledge; Calsamiglia, van Dijk 2004; Gotti 2014) the findings show a strong preference for patterns of dialogic interaction, including pronouns such as *we* and *you*, games, quizzes and other teasing activities, or questions that mime the classroom context while triggering engagement and promoting interaction. This comes with recourse to informal language and systematic anchoring of all web content to the children's assumed interests and experiences. By doing this, knowledge transmission is felt to be 'symmetrical'. Children take central stage as 'artists' and expert 'art critics' in interactive multimodal texts that bring text and images on an equal footing (Barthes 1977 [1964]; Kress, van Leeuwen 2006). The outcome is edutainment (Buckingham, Scanlon 2003) at its best.

One basic requirement for effective knowledge dissemination and popularization, though not for peer-to-peer communication, is to build common ground for mutual understanding (Clark 1996; Bromme, Jucks 2018). Accordingly, Chapters 2, 4 and 6, 7 and 9 argue for accommodating the information needs of the intended interlocutor. Building common ground for mutual understanding, however, is also a matter of social maneuvering, positioning and adjusting to the personality-related needs of the intended addressee. This is the topic of the chapters in Section IV, on the communicative implications of *"Negotiating roles and relationships for specialized knowledge communication"*. The section starts with Chapter 10, on *"Probability adjuncts as hedges in native and 'non-native' English web-mediated communication"*. Here, JACINTA

EDUSEI provides a preliminary reflection on probability adjuncts (Quirk et al. 1985) as one of several hedging devices adopted to strike a balance between being clear and being polite when communicating across cultures and backgrounds. Very broadly, the data suggests a positive correlation between authoritative voice and hedging when building common ground for mutual understanding and promoting inclusion.

Admittedly, we get an entirely different picture when building common ground ranks low in the priority list of core and active participants within expert communities. In this respect, Chapter 11, authored by SILVIA CACCHIANI, carries out a qualitative investigation into *"Verbal irony and other figurative tropes on the* Marginal Revolution *blog"* (years 2012 and 2016) – a scholarly blog hosted by the economist Tyler Cowen. Qualitative data analysis shows how the domain expertise and credibility of more and less active ratified participants affect recourse to irony (Attardo 2007 [1993], 2017, ed. 2017) and/or other figurative tropes for diverse socio-pragmatic effects (Colston 2015, 2017). Indeed, extreme evaluation, hyperbole and hyperbolic scenarios are available to active participants for persuasion, expressing emotions and negativity, as well as highlighting discrepancies. Certainly, expressing negativity is a clear move towards aggression, dissonance and non-alignment. Generally, however, active/core participants set aside aggression and attack, and express their opinion frankly, based on their credibility (or the ability to control survey evidence, facts, models, theories and the relevant literature). On the one hand, experts do not make recourse to sarcasm; on the other, negativity expression management, social maneuvering and ingratiation are, at best, exceptional. As far as this point is concerned, this means that core/active participants do not need to adjust to the personality-related needs of their interlocutors. The focus lies on arguing one's point of view and presenting opinions and objections, non-alignment and (dis)agreement convincingly. Yet, along with hedging and relatively less assertive speech acts, self-doubting and self-deprecating verbal irony for social maneuvering, catalyzation, ingratiation and bonding, are available to relatively less active participants. Though personal preferences and communication styles do affect individual choices, recourse to hedging and relatively less assertive speech acts appears to reflect marginal or marginalized roles and blogging personas. Experts appear to use irony differently, masterly combined with other linguistic strategies to achieve effects such as humor and persuasion in conversation starters.

Turning to the hacking community, in Chapter 12 – *"Hacking the 'Code': Tracking the ideational roots of web-based humor"* – ILARIA MOSCHINI brings to the fore the affiliative effects of irony and humor (or benign irony; cf., e.g., Colston 2015, 2017). Multiple theoretical frameworks and methods are brought together in order to analyze in turn instances of remediation like the *Numa Numa* video, variation in the geek phrase *There is no place like 127.0.0.1* (i.e., your local host), Easter Eggs such as *the answer to Life, the Universe and Everything*, which finds its roots in science fiction but has been parodied and appropriated in a number of ways, also by NASA, and the intersemiotic cohesive devices (Liu, O'Halloran 2009) at play in internet memes, which show a co-combination of text and image (here, *Please wait while the wizard installs the office*, and Gandalf the Wizard). Humor is accounted for within Attardo's (2007 [1993], 2017, ed. 2017) General Theory of Verbal Humour, and the special status enjoyed by language play is grounded on the conceptual metaphor Code IS Language. Core members build credibility via recourse to clever jokes and witty humor, based not only on successful mastery of language play and ability to mix codes, but also on skillful participation in group-driven, collaborative forms of humor. Humor and laughter ultimately "afford a "quick probe" for establishing common attitudes" (Hurley et al. 2011, in Weitz 2017: 507), signaling in-group membership and fostering solidarity with other community members (Weitz 2017).

Collectively, the chapters in the volume bring up a variety of questions concerning effective communication strategies for constructing, controlling and negotiating knowledge, earning credibility and positioning oneself in or outside a given community of practice. As is natural, they cannot reasonably provide comprehensive coverage of the vast array of issues, genres, media configurations and disciplinary fields that characterize LSP studies. Yet, it is hoped that the chapters may serve as a useful introduction to a broadened view of LSP and to methods and approaches that are currently making inroads into LSP circles to that effect, at the interface of corpus studies and genre analysis, sociolinguistics, media linguistics and research on multimodality.

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SECTION I

COMMUNICATING SPECIALIZED KNOWLEDGE IN AND ABOUT HEALTH AND MEDICINE

CHAPTER TWO

ARTICLE TITLES IN ONLINE MEDICAL POPULARIZATION

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Abstract: Given the spread of Internet-based communication over the last two decades, the transfer of scientific contents to lay audiences through the Web has become an increasingly significant phenomenon, bringing together aspects stemming from specialized discourse, media communication and persuasive/promotional language. In specialized discourse standardized formulations, even with a marked gate-keeping function, are considered to be appropriate in order to transfer given meanings and instantiate specific interpretive frameworks; on the other hand, in media communication emphasis on rhetorical resources is accepted as a prototypical way to construct news, confer newsworthiness to events and convey ideology-saturated value judgement. In contrast, the popularization of medicine holds an intermediate position on a discoursal continuum, combining the need for informativeness and accuracy of specialized communication and the need for cognitive immediacy, effectiveness and the avoidance of gate-keeping effects which is dominant in media and persuasive communication. Since popularization affects not only the micro-linguistic and rhetorical level but also, and quite markedly, pre- and early-textual aspects, this analysis will focus on one of such elements, namely, the titles used in medicine news articles, with the purpose of tracing the strategies typically used in online medical popularization (*Science Daily* and *Scientific American*) to effectively synthesize contents in terms of both clarity and impact, so as to facilitate the process of text location and selection when browsing online archives.

[1] Michele Sala is responsible for Sections 1-2, Stefania Consonni authored Sections 3-4.

1. Introduction

This chapter examines the use of newspaper article titles (henceforth ATs) in online popularization primarily aimed at the dissemination of health-related matters. Medical popularization, especially in its digital and electronic realizations, is a key element in disseminating scientific knowledge and specialized information from authoritative sources (i.e., expert research results) to the general public, that is, the lay audience sharing some interest in such matters without having the specialized epistemological and linguistic competence to process, interpret and fully understand primary source material.

This type of health-related competence, in today's digital era, is not just idiosyncratic or peculiar to some users, but – although superficial and non-specialized – is a distinctive identity-forming trait in Western societies, where the awareness of belonging to such cultures stems also from our knowledge of the rights/duties or possibilities/risks associated to various domains of social life (i.e., political, legal, financial, medical, etc.). As far as medicine is concerned, this is evidenced by the proliferation of popularized scientific and medical publications – both on paper and digital format – and the spread of health-related and self-medication blogs and fora (Tessuto 2015).

Web-based communication represents a privileged channel to make this type of information available to the larger public. However, given the amount and range as well as the quality and variety of such an informative offer, it becomes relevant to also provide ways for these contents to be easily retrievable and accessible, hence effectively understood and assimilated by users. The retrieval function of semantic and lexical handle is typically performed by the genre of titles, which are generally associated to almost all kinds of written texts, in that they "allow to locate relevant content, are used for indexing purposes and – most importantly, from the author's perspective – showcase a publication's strengths" (Giannoni 2014: 153).

By titles we refer to those structures, usually markedly short, which are associated to an ensuing, longer and more complex text, which they are intended to introduce by both synthesizing the relevant information and, possibly, presenting it in a way that is efficient and appealing for the reader. Although the idea of what is efficient and appealing is very elusive and depends highly on the type of audience, and on both content and context of the consumption, a text title can be said to be efficient when its relevance regarding the ensuing text is immediately understood, that is when it provides not only elements as to its content but also hints as to its text type and pragmatics. On this basis, Virbel (2002) and Eyrolle et al. (2008) distinguish titles into: *thematic*, in that referential as to the informative material to be found in the following text; *generic*, explicitating the genre of the associated text (i.e., Business Contract, Editorial, Insurance policy); *functional*, pointing to the function of a given text unit within a larger text (i.e., Introduction, Conclusion, Summary, etc.); *framing*, indicating the sequential ordering of a text unit within a larger text, often combined with lettering and numbering (i.e., Chapter 1, Section a, etc.); *performative*, lexicalizing the function performed by a given text (i.e., Errata Corrige, Acknowledgements, etc.).

The appeal of a title, instead, has to be measured with respect to the audience's expectations and, to some extent, to its contextual appropriateness. As a matter of fact, in information-based settings straightforward, transparent and referential structures are bound to be appreciated as being more 'appealing' or preferable over ambiguous or allusive ones, in that responding to the reader's informative needs. Otherwise, in entertainment and leisure-oriented settings more playful, convoluted or even opaque formulations may be more appropriate, in that they both attract readers' attention and stimulate and challenge their interpretive abilities rather than simply inform them. In this sense, using Mansfield's (2006) taxonomy of newspaper ATs, it is possible to distinguish titles in terms of appeal, dividing them into *summary* titles, meant to provide the gist of the associated text's referential content, and *connotative* titles, those exploiting figurative language, intertextual references, acoustic or graphic effects, etc., whose function is to "arouse the reader's curiosity about the [content] that follows, but there is more work involved in decoding the message due to the writer's manipulation of the language for his/her communicative ends" (2006: 53). In medical popularization, titles associated to health-related articles are almost exclusively of *thematic* type, according to the classification by Virbel (2002) and Eyrolle et al. (2008), but their lexical and semantic realization may range from the *summary* to the *connotative* end of the spectrum defined by Mansfield (2006).

As already anticipated, popularizing medical websites feature articles aimed to report, synthesize and simplify the content of medical research papers authored by experts and published in specialized journals. Such entries are usually thematically organized in specific sections, and are made easily accessible through headline links, either arranged in specific menus or positioned on the homepage as a teaser redirecting to the full text of the article. In this context, ATs represent a particular and remarkably interesting genre, not just in terms of semantics, but for their pragmatic effect and communicative impact on the audience, since they have a specific function and organic autonomy with respect to both the title of the original research paper they are intended to report about and the wording of the headline link. Differences in wording between the expert version of the text and its popularization are due to processes of conceptual reconfiguration and recontextualization (Calsamiglia 2003; Calsamiglia, van Dijk 2004; Myers 2003; Garzone 2006; Gotti 2013) and linguistic reformulation (Breeze 2015), which operate through the use of metadiscursive resources (ranging from generalization, description, definition, code glossing, etc. to the use of engagement strategies) meant to enhance lay readers' comprehension. Differences between ATs and their relevant headline links, instead, have to do with space constraints, "because the original did not fit into the assigned web space or format" (Mansfield 2006: 289) and may be the result of possible attempts aimed to balance informativeness and attractiveness (Martin 1998). As a matter of fact, given the type of information and the channel for its communication, popularizing ATs conflate both concerns: the need for informativeness and exactness – typical of expert texts – so as to allow the general public to find and comprehend the relevance of given contents, as well as the attractiveness of their wording, which must elicit the reader's curiosity but, unlike headline links, has to be pertinent and coherent with the associated article (especially in terms of word-choice, but also register and style) so as to facilitate retrievability through Web searches.

On these premises, the present analysis will investigate ATs in order to trace the strategies typically used in online medical popularization to effectively synthesize contents in terms of both clarity and impact, with the purpose to ease the process of text location and selection when browsing online archives in scientific publications.

2. Material and Methodology

For the purpose of this analysis we have selected a corpus of ATs taken from two free-access online magazines, the traditionally well-established *Scientific American*, and the relatively recent *Science Daily*. The former is the online version of a popular science magazine founded in 1845 and representing the oldest medical journal published in the US, while the latter was founded in 1996 with the specific purpose of providing daily updated information. Both publications are meant to transmit specialized and authoritative contents in a way that is clear, concise and easy to process.

A total of 270 ATs (135 per each website) have been collected, published in different subsections of the Health sections in both sources in the time span May-September 2015. Since health-related topics are heterogeneous, and since different contents imply different expectations on the part of the reader – hence different rhetorical styles on the part of the writer – for comparative purposes ATs have been here grouped in three macro-categories containing 90 samples each (45 per source), according to the content type of the associated article, namely: deadly pathologies (i.e., pathologies that, at least to the mind of the average lay reader, are likely to be perceived as being fatal if not properly treated, such as cancer, HIV, epidemics, pandemics, etc., henceforth indicated as DP), general pathologies (i.e., allergies, mental health, depression, etc., that is, those pathologies which might be dangerous but are not usually a direct cause of death, henceforth GP), and general healthcare (i.e., alternative medicine, dieting and healthy eating, wellness, etc., henceforth GH). The following table shows the distribution of ATs per Web source and per group.

Tab. 1: Distribution of ATs in the corpus

	SA	*SD*	*Total*
deadly pathologies	45	45	90
general pathologies	45	45	90
general healthcare	45	45	90
Total	135	135	270

Assuming that ATs always need to be informative, precise and complete to be effective (White, Hernandez 1991; Hartley 2005b, 2007; Eyrolle et al. 2008), therefore to minimize interpretive effort and maximize text retrievability and selection, we will here analyse the strategies adopted by online medical popularizations to attain such purpose by focusing on the way meaning is worded out in conceptual and syntactic terms and, more specifically, on the way ATs are organized in structural and lexical terms. At structural level (Fortanet et al. 1998; Swales 2003; Soler 2007; Jaime Sisó 2009), titling constructions will be distinguished into, respectively, conclusive, interrogative, compound and nominal.

At lexical level we will see how and in what proportion in popularizing ATs specialized content is modulated through markers indicating mitigation, evidentiality and attribution (Hunston 2003; Hunston, Thompson, eds. 2003; Hyland 2005; Hartley 2007) in order to boost exactness and credibility.

3. Results

3.1 Structural Level

ATs can be distinguished into four categories, according to different ways of syntactically organizing the informative material.

Conclusive Titles

Full-sentence conclusive titles (also declarative or declaratory, cf. Smith 2000; Goodman et al. 2001; Jaime Sisó 2009) are represented by structures which are syntactically and semantically autonomous in that containing finite verbal forms which specify the semantic relationship between the various lexical elements in the sentence, as can be seen in the following examples:

(1) Scientists discover electrical control of cancer cell growth. (49)
(2) Cognitive-behavioral prevention program for teens at-risk of depression shows benefit. (236)

Formulations like these are informatively dense, since they anticipate the relevant points of the associated article. In doing so "they attract the reader's attention but simultaneously run the risk of being over-optimistic" (Giannoni 2014: 153), in that over-general or over-simplified, thus leaving little space to nuances or articulated meanings.

Interrogative Titles

As the label suggests, interrogative titles are formulations constructed as or through questions, thus positing meanings interrogatively rather than assertively. These constructions may be intended to represent questions readers might have on a specific subject and anticipate cognitive gaps which are then dealt with by the ensuing article, or to actually question and cast doubts over certain meanings, signalling "queries in need of reply, interpretation, and conclusion" (Soler 2007: 100). This typology can be exemplified by texts like the following:

(3) Is Food Addiction Making Us Fat? (127)
(4) Why do people with schizophrenia misinterpret social cues? (178)

Such structures function as anticipatory devices meant to elicit the reader's curiosity about a given issue, although in different and very specific ways. Polar questions, as in (3), offer a double possibility as to the relevant answer (either positive or negative), and the associated text is therefore expected to provide informative material to either confirm or falsify the propositional content being questioned. Open questions, as in (4), place instead the focus on specific elements, usually whys and wherefores regarding the overall meaning (i.e., the reasons or the ways a give state of affairs came about), thus reflecting the scope and focus of the associated article.

Compound Titles

Also referred to as *colonic* or *hanging* titles (Day 1994; Hartley 2005b), such structures are constituted by two semantically interconnected parts (phrases, clauses of even full sentences, both declarative and interrogative) normally joined by a colon, a full stop or a punctuation mark with a similar function (Jaime Sisó 2009). They are thus organized in theme-rheme clusters where the first part introduces the general topic and the second one makes it relevant by framing it in general-specific, major-minor, topic-method, problem-solution sequences or by contextualizing it with respect to specific scenarios. Some examples can be found below:

(5) Taming hot flashes without hormones: What works, what doesn't. (108)
(6) Hypoallergenic parks: Coming soon? (21)

With such formulations both informativeness and appeal are accounted for (Hartley 2007) in either part of the structure. One part is meant to attract the reader by positing general meanings, easily accessible and hence appealing to the lay public, and the other is meant to make such meanings informatively relevant with respect to both the expectations readers might have about the topic, and the actual content, along with the way of dealing with it which is to be found in the associated article.

Nominal Titles

These are structures either consisting of a single verbless expression, or containing verbal forms in the non-finite form (i.e., gerund, participle, *to* + infinitive, etc.). The type of language found in such formulations is commonly referred to as "block language" (Straumann 1935), headlinese (Garst, Berstein 1963) or economy grammar (Halliday 1967), and is typical of those genres or text types characterized by fixed space constraints (as is the case of advertisements, telegrams, book titles, etc.). Other features of such titles, besides the omission of the auxiliary verb (*be*, *have*, *do*), may be the omission of definite and indefinite article, the frequent use of passives, the preference conferred to nominalization and to the use of condensed noun groups (Mansfield 2006), as can be seen in the following examples:

(7) The flaws of HIV. (200)
(8) Hereditary swellings caused by defective blood protein. (28)

Structures like the above are descriptive or indicative rather than informative, in that they exploit lexical elements as keyword with the purpose to give a general idea of what the ensuing article is going to be about, thus eliciting the reader's curiosity without necessarily satisfying it. As a matter of fact, the type of meaning relation between the various informative elements is left implicit and, in many cases, may be ambiguous if not just obscure (see (9), below).

Subtitles

By observing the samples in our corpus we have noticed that in many cases, possibly in order to balance informativeness and appeal, ATs are followed by a short paragraph – whose length may nonetheless vary considerably – used to complete, better articulate, specify or explicitate the type of content to be found in the following article, as can be seen in the extracts below:

(9) Moldy Muffin Mystery.
A fungi expert helps Scientific American ID the mold in a reader-submitted photo. (9)
(10) How Birth Control Pills Affect Your Nutritional Needs.
Prescription medications can affect your body's absorption and utilization of nutrients. If you use birth control pills or HRT, make sure you're getting enough of these nutrients. (247)

Such formulations function as informative appendixes to ATs, giving writers more freedom and rhetorical space where to distribute information, thus allowing ATs to sacrifice informativeness for appeal and pragmatic impact in case both functions could hardly be attained at the same time.

The following table shows the frequency and distribution of ATs according to their typology and the presence of related subtitles.

Tab. 2: Distribution of AT types across the corpus

	deadly pathologies	*general pathologies*	*general healthcare*	TOTAL
conclusive	61	37	42	140
Subtitle	*25*	*20*	*23*	*60*
interrogative	4	13	5	22
Subtitle	*3*	*6*	*4*	*13*
compound	5	16	9	30
Subtitle	*2*	*7*	*4*	*13*
nominal	20	24	34	78
Subtitle	*12*	*14*	*24*	*50*
Subtitle total	*42*	*47*	*55*	

Some interesting trends are revealed by the occurrences in the table. The most noticeable is the general predominance of conclusive formulations in the three sub-corpora (with a total of 140 occ.). This is likely to be due to the domain's epistemology, in that medicine has to do with empirical and laboratory data, or case studies hinging on condition-consequence and experiment-results processes. Information about such contents is therefore most appropriately presented in assertive and referential terms rather than through formulations which presuppose interpretation or meaning negotiation.

Another significant trend concerns ATs dealing with DP topics: conclusive structures seems to be the preferred formulations both in absolute (within DP ATs) and proportional terms, that is by considering the wide gap between DP conclusive titles (61 occ.) and other title typologies (respectively, 4 interrogative ATs, 5 compound ATs, 20 nominal ATs), especially when compared to the (relatively) more homogeneous distribution of title types in GP and GH. As to the occurrence of subtitles, as we can see in the very last line of the table, DP ATs make a more limited use of such resources (42 occ.) when compared to GP (47 occ.) and GH (55 occ.). The assumption is that, given the type of content of these texts and the informative need on the part of a reader looking for such meanings, death-related articles are most easily located and found relevant when their ATs are informatively dense, complete, transparent and semantically autonomous (thus not requiring explanatory appendixes).

In GP articles, instead, the title typology is much more varied. Although in absolute terms conclusive and nominal constructions are the most frequently used (respectively 37 and 24 occ.) – as in both DP and GH – interrogative and compound titles, barely noticeable in other groups, are here proportionally more relevant (respectively 13 and 16 occ.). When introducing pathologies that are not directly death-provoking, the effectiveness of ATs seems to benefit from plain assertiveness as much as from more engaging formulations, that is when information is sequenced in gap-filler clusters, where the filler slot is either occupied by the rhematic part of the ATs themselves – in compound structures – or simply anticipated and left to be filled by the content of the associated article – in interrogative titles. In both cases the reader's curiosity is cognitively stimulated rather than merely satisfied. The relatively high frequency of subtitles associated to this type of texts is to be read along the same lines. As a matter of fact, general pathologies are several and very different from one another. Therefore, since their degree of danger varies on the basis of given conditions and, consequently, treatments and the experimental research about them do as well, all these contextual and circumstantial elements may find rhetorical space precisely in these theme-rheme constructions.

Finally, by considering ATs in GH we can see that nominal formulations (34 occ.) are almost as frequent and proportionally relevant as conclusive ones (42 occ.). As noted above, nominal structures are typically found in newspaper headlines, therefore their use in GH ATs may be due to the 'general interest' quality of GH topics. In other words, general interest subjects in medical popularization appear to be represented the same way general interest issues in other domains (i.e., political, financial, cultural, etc.) are dealt with in media discourse. Nominal constructions are exploited to concisely anticipate what the ensuing text will be about in a way that is challenging, that is, either cognitively economic (possibly semantically poor) or impactful (possibly cognitively demanding). This may explain the high frequency of subtitles associated to GH ATs, which are likely to be used to disambiguate the possible opaqueness of nominal formulations, which, as seen above, tend to have an indicative rather than informative character. Coincidentally, the presence of subtitles associated with titles is also a typical feature of newspaper discourse, where the headline is normally followed by the lead (Mansfield 2006).

3.2 Lexical Level

The interplay between appeal and referential precision is also to be found at lexical level. The elements commonly used to make the wording of ATs interesting and intriguing are many and varied, ranging from figurative expressions, metaphors, intertextual references, colloquialisms to the use of conventional formulations usually associated to low and familiar registers.[2] These resources are employed as 'attractors' (Hartley 2007) because cognitively stimulating, possibly puzzling and entertaining at the same time, thus offering readers alternative ways of making sense of the meaning through interpretive mechanisms which are usually associated to other contexts or genres.

The focus of the present analysis will be on the resources which are most strategically exploited to balance cognitive appeal, on the one hand, and semantic transparency, informative relevance and referential exactness, on the other. Such strategies are represented respectively by metadiscursive phenomena such as mitigation, attribution and evidentiality, which may be used to codify varying degrees of commitment, certainty, authoritativeness, objectivity and caution in the representation of the content, thus emphasizing reliability over assertiveness or pragmatic impact.

Mitigation

This resource in our corpus is mainly lexically realized through modal verbs used as hedges (*can*, *could*, *may*, etc.) or semantic verbs referring to cognitive and interpretative processes (*suggest*, *seem*, *appear*, etc.; cf. Hyland 2005), and is meant to downtone the otherwise assertive character that short formulations may acquire when there are no immediate cotextual elements to disambiguate or further articulate their meaning, as can be observed in the following examples:

(11) Familiar drugs *may*[3] block Ebola virus infection. (84)
(12) Late bedtimes could lead to weight gain.
Teen night owls may want to hit the hay earlier, study suggests. (136)

As we can see from the texts above, such mitigating resources are particularly relevant in the medical domain since very often new findings, alternative ways of approaching medical problems, new methods for curing given pathologies, etc. need to be tested, empirically verified, and applied to a large number of cases to prove their validity. Thus, in such scenarios, the declarative or unmitigated conclusive character of ATs may

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[2] Consider, for the sake of exemplification, the cluster 'AT + subtitle', 'Vaccines Are an Excellent Shot in the Arm. *I've seen the needle and the damage avoided*' (71), which contains two conventional expressions used here for their punning potential.
[3] Emphasis added, as in all examples henceforth.

be highly problematic, not only in that face-threatening, but because it is used to represent a meaning that in the long run may end up not corresponding to reality (i.e., after further testing).

Attribution

This rhetorical strategy is lexicalized through expressions by which the meaning is discursively presented "as deriving from someone other than the writer" (Hunston 2003: 178), that is, as reported from an authoritative source – a renowned scientist, a research team, etc. – thus representing the AT as a synthesis or a paraphrase of the expert's words. Such resources are expressed through reporting and discourse verbs (*say*, *claim*, *state*, etc.), as in the examples below:

(13) Cellphones can damage romantic relationships, lead to depression, *say researchers.* (234)
(14) Increasing calcium intake unlikely to boost bone health or prevent fractures, *say experts.* (137)

As can be observed in the two texts above, by attributing the responsibility and value of a claim to a recognizable and trustworthy source (*researches*, *experts*), such formulations reinforce the credibility of their propositional content.

Evidentiality

Evidentials, for the purpose of this analysis, are those "textual features that can signal the source of speaker's knowledge" (Johnstone 2009: 30), that is, expressions explicitating "the ascription of information or opinion in a text to sources which may be animate or inanimate" (Hunston 2003: 181), such as a piece of research, an experiment, a case study, etc. (through formulations like *scientists discovered*, *studies show*, *evidence demonstrates*, etc.). In other words, whereas attribution relates meanings (and their reliability) to experts' words, evidentiality frames them with respect to scientific evidence (laboratory test, empirical data, experimental results, etc.), as shown in the cases below:

(15) Smoke-free zones, higher taxes deter youth smoking, *study shows.* (269)
(16) *Scientists discover* electrical control of cancer cell growth. (49)

The use of evidentials is not only pragmatically effective, but is also particularly strategic from an epistemological standpoint, since "the sources together constitute a constructed culture of knowledge and opinion, which the reader is expected to share and be convinced by" (Hunston 2003: 181).

The results of our searches can be seen in the table below.

Tab. 3: Distribution of mitigation, attribution and evidentiality across the corpus

	deadly pathologies	*general pathologies*	*general healthcare*	TOTAL
mitigation in ATs	22	12	9	43
in subtitles	*12*	*18*	*29*	*59*
total	34	30	38	102
attribution in ATs	2	2	5	*9*
in subtitles	*7*	*3*	*11*	*21*
total	9	5	16	30
evidentiality in ATs	19	5	9	33
in subtitles	*16*	*13*	*19*	*48*
total	35	18	28	81

The first column in the table shows that, in the case of DP, ATs and subtitles tend to conflate informativeness and referential precision by mitigating the assertive character of claims and emphasizing possibility over certainty (with a total of 34 occ. of mitigation markers), and also by referring to scientific activity as the authoritative source justifying the information presented (with a total of 35 markers of evidentiality). By so doing, such formulations allow readers to understand the type of content of the ensuing article, to be aware of the degree of plausibility of the relevant informative material, and also to anticipate the epistemological framework within which to measure and interpret the piece of evidence presented (i.e., hypothesis making vs. hypothesis testing, data observation vs. data interpretation, etc.). Another interesting trend retrievable from the table is that, in the case of DP, both mitigation and evidentiality are found primarily in ATs rather than in subtitles. This seems to be in line with the fact that DP ATs, in order to be pragmatically effective, need to be semantically complete and precise – maximizing referential exactness at the possible expense of rhetorical impact – so as to be easily located through archive searches and, consequently, selected for reading.

The case of GP is noticeably different, in that markers are on the whole less used with respect to DP and GH, and are mainly found in subtitles rather than in ATs. As we have seen in Table 2, GP articles resort relatively more frequently than other articles to formulations which presuppose disambiguation (i.e., theme-rheme sequences in compound structures, gap-filler clusters in interrogative structures), and the same dialogical purpose is reflected in the use of subtitles, which contain disambiguating and circumstantial elements, especially in terms of mitigation (18 occ.) and evidentiality (13 occ.) – both markers being noticeably more limited in ATs (respectively 12 and 5 occ.).

Finally, in the case of GH, lexical markers are significantly more used than in GP (a total of 38 occ. for mitigation, 16 for attribution and 28 for evidentiality, respectively), with an overall frequency that compares to the one found in DP, although with a major difference: in GH such resources are typically found in subtitles (with a frequency which doubles the one in ATs), and this is to be interpreted in relation to the fact that a significant proportion of such titles is made up of nominal – that is, indicative – formulations, which often need to be further specified to become meaningful – hence the need for subtitles as informative appendixes. Another peculiarity observed in GH is the higher occurrence of attributive strategies (a total of 16 occ.) when compared to the other groups, where they were instead barely noticeable. This may be due to the character of GH contents: in such contexts credibility can be corroborated by merely quoting experts' words rather than pointing to empirical evidence in support of a given claim.

4. Concluding Remarks

On the basis of the evidence collected so far, it is possible to claim that there is no recognizable standard or trend in the interplay between informativeness and pragmatic appeal in the formulation of ATs and subtitles in online medical popularization. We have noticed, instead, that such purposes are textually realized in different ways according to the specific content of the various texts, which we have organized in three groupings, namely, DP, GP and GH.

The only possible common feature is the preference conferred to conclusive formulations over other types of structures (interrogative, compound or nominal). This might be explained with respect to the domain's epistemology: medicine is an evidence-based discipline (traditionally considered as part of the hard sciences), hinging on empirical data, experimental and laboratory findings, case study results, etc. In contexts as such, formulations which maximize referential precision rather than rhetorical impact are preferred in that they are considered appropriate ways of transparently wording out discipline-related meanings.

Beside this common trait, the distribution of ATs according to their typology is very heterogeneous, and variation may depend on eminently pragmatic factors.

As a matter of fact, one quite evident trend is that the farther removed from death-related topics ATs are, the more varied their typology is. This might be due to the fact that, when searching for material concerning deadly pathologies, users' expectations are framed within a paradigm which is organized around the life-death axis (or, more precisely, the life-resistance to death axis), so that any point along the axis is going to be perceived as relevant (i.e., how to recognize the disease, how to classify the disease, how to diagnose the disease, how to neutralize the disease, how to live with the disease, etc.). On this basis, any semantically transparent and straightforward reference to any such point is likely to appeal to users looking for this specific information. In fact, they do not need to be attracted, nor their curiosity to be elicited: focus on semantic informativeness (through conclusive formulations) and referential precision (through mitigation and evidentiality) is what makes DP ATs easily located through archive searches and understood, thus facilitating the process of text selection for further reading.

In the other groups (GP and GH), topics can be dealt with through a variety of parameters and paradigms, the sense hierarchy or priority in terms of informative relevance thus not being immediately patent. In these cases information is made (to appear) relevant through linguistic and rhetorical resources, and this is carried out in different ways, according to the type of content and the slant to be found in the ensuing article: for instance, by engaging the reader and withholding relevant information (typically, in the case of GP), or by attracting readers' curiosity and playing games with their minds (in the case of GH) – in a word, by creating expectations about a given topic where such expectations were not already the driving force or the criterion guiding users when browsing through titles in online medical popularization.

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CHAPTER THREE

FILLING GAPS IN MEDICAL KNOWLEDGE: COMPARATIVE MECHANISMS IN EVIDENCE-BASED MEDICINE

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Abstract: This contribution is about the semantic organization and the lexico-grammatical description of the domain of comparison in a corpus of electronic papers dealing with medical research trials and observational studies, especially those grounded in the Evidence-Based-Medicine (EBM) approach. Regardless of the method chosen, study design always hinges on a combination of relations of similarity, difference or identity encoded in various ways in the lexico-grammatical resources used either at clause or clause-complex level. As well as acting as cohesive devices for marking textual status, comparative relations are meaning-making resources that help construe and disseminate knowledge with scientific standing. Comparative mechanisms occur frequently at all the stages of a medical research study: from descriptions of the sample population, to the procedures employed, to the results obtained. Furthermore, the exploration of comparison offers the possibility to see how the dimension of (inter-)subjectivity manifests itself in particular instances of medical discourse. Given its ubiquitous use, comparison emerges as a key linguistic device, aimed at filling gaps in medical knowledge and building up valuable and relevant research evidence capable of informing and, hopefully, improving clinical practice.

1. Introduction

Today, new approaches and methodological tools are being developed to meet the scholarly and practical needs of all areas of knowledge, including medicine. One of the most recent medical-diagnostic methodologies which has come to the fore and begun to surpass traditional aetiological practice, or better still, integrate and complete it, is Evidence-Based Medicine, EBM for short. This approach postulates, in fact, that clinical decisions should no longer be based on intuitive deduction, personal experience and pathophysiological rationale alone. Rather, these human-factor elements ought to be wedded to concrete results obtained by cross-referencing instrumental tests and be informed by state-of-the art findings made available by the world's best medical teams and published in the most prestigious journals in the field.

As a linguist and a language teacher in a medical faculty, I cannot but be interested in the way evidence is framed by the medical literature and in how texts achieve scientific standing. The purpose of this paper is to throw light on the linguistic mechanisms that, given their recurrence, are a fundamental semiotic resource used to construct and convey the meaning of a scholarly text, with special reference to medical research. Thanks to introspection and corpus investigation, it appears that in EBM texts, comparison, a linguistic device employed to perform different functions in discourse, is highly pervasive. Comparative items are a constant feature of research studies shaping the knowledge they communicate at each IMRaD [Introduction, Methods, Results and Discussion] phase of the publication, whether referring to literature,

(1) Lai et al.[52] and Berry et al[53] report almost *identical*[1] conclusions regarding this 15 ng/mL cut-off point. (WJH)[2]

to sample groups involved in research,

(2) Intervention and matched control groups appeared *similar* at baseline (n = 1413 in each group). (JPH)

or when reporting or discussing the results of randomised clinical trials,

(3) Citalopram-treated subjects had significantly *different* changes in Aß concentrations over time compared to placebo. (STM)

Recourse to contrastive mechanisms appears to be a fundamental feature of EBM linguistic constructions. Even in case reports where no

[1] In this and the other quotations, Comparators are in italics.

[2] The medical journals from which quotations are referred to using an abbreviation. The full names of all the journals are listed at the end of the paper (Appendix 1. Journal Articles). Journals bearing a single-word title are referred to using the full word.

groups are compared, contrast/comparison may be used to explain different aspects or phases of a patient's medical history:

(4) At 6-month follow-up MRI showed an early regrowth of the fourth ventricle tumor, with the *same* radiological features. (JMCR)

Given the centrality of comparative relations in the meaning-making processes of medical texts, this study intends to investigate the semantic domain of comparison. The principal focus is on *general comparison*, that is on comparison made by means of reference "to general features of identity, similarity and difference" (Halliday, Matthiessen 2004: 560). With the help of data drawn from the corpus examined, different samples of comparative constructions are discussed in order to develop and support the main claim made by this study: that comparative mechanisms act on different *planes of discourse*, performing various discourse functions and building up relevant research evidence. After introducing the conceptual framework for the analysis, we will first deal with descriptive comparisons explicitly encoded in lexico-grammatical resources, and then go on to illustrate the interactive meanings of comparative constructions by foregrounding how *subjectivity* and *intersubjectivity* are expressed.

2. Theoretical Framework

The starting point of this study is Halliday and Hasan's (1976) analysis of comparative reference, where they identify and discuss two types of comparison: general and particular. While *general comparison* is realized through a certain class of adjectives and adverbs to compare entities in terms of likeness and unlikeness regardless of any particular property, *particular comparison* is realized through the use of ordinary adjectives and adverbs in some comparative form and expresses comparison in terms of quantity and quality.

This research is especially indebted to the claims made by other scholars who have developed and refined Halliday and Hasan's (1976) pioneering analysis, and Tine Breban (2010) in particular, who has examined the lexical and grammatical uses of adjectives of comparison, arguing that "English adjectives of comparison have been affected by processes of grammaticalization and subjectivation in the NP which resulted in their current ability to perform various functions in the NP" (Breban 2010: 351). Here, I shall explore the most frequent *comparative items* which establish a contrastive rapport, by signalling that "what I'm talking about is the same or different, like or unlike, equal or unequal […]" (Halliday, Matthiessen 2004: 560). These items are adjectives or adverbs which, in keeping with Halliday and Hasan's definitions, I shall call 'adjectives of comparison' and 'adverbs of comparison', respectively, "to distinguish them from COMPARATIVE ADJECTIVES and COMPARATIVE ADVERBS, which are the comparative forms of ordinary adjectives and adverbs, e.g.: bigger, better, faster, more quickly" (Halliday, Hasan 1976: 77). The analysis will also include comparators in process or nominal form (e.g., *vary*, *difference*). In order to outline the semantic-functional profile of these comparative items, I shall draw on Sinclair's (1981) notion of *planes of discourse* and resort to categories identified in Systemic Functional Linguistics. Very broadly, writer-involved meanings displayed by comparative structures used to build a relationship between writer and reader will be discussed by combining Traugott's (1995) and Langacker's (1998, 2002) notions of *subjectivity* and *intersubjectivity*.

3. Corpus Data and Methodology

A total of eighty articles drawn from on-line electronic journals was selected for each of the following study designs commonly used in Evidence Based Medicine: cross-sectional, randomised control and cohort studies, case reports, systematic reviews and meta-analysis. As far as topics are concerned, the articles were chosen at random from publications issued in the last ten years. Since indexation of a journal is generally considered a reflection of its quality, all the articles used to compile the Evidence-Based-Medicine corpus (henceforth, EBM corpus) were downloaded from journals indexed in *PubMed*,[3] one of the most frequently consulted on-line databases used to find medical articles. Details of the corpus are provided in Table 1 below.

Tab. 1: EBM corpus details

Details of the EBM corpus	
Tokens	2,105,000
Types	48,887
Type/token ration	2.52
Number of files	560

The corpus was explored using the *WordSmith Tools* package (Scott 2012). In particular, the most frequent comparative items dealt with in the

[3] *PubMed* is a free resource that provides access to *MEDLINE*, the U.S. National Library of Medicine database of citations and abstracts in the biomedical field (available at https://www.ncbi.nlm.nih.gov/pubmed).

research project described here were retrieved by means of the software's *Wordlist* function, while the linguistic context for each comparative item was explored by using the *Concordance* function. Table 2 displays the most frequently recurring comparative items investigated in this paper:

Tab. 2: Occurrences and frequency of comparative items found most often in the corpus

COMPARATIVE ITEM	OCCURRENCE	FREQUENCY
other	3,467	0.16%
different	1,409	0.07%
similar	1,144	0.05%
difference	1,030	0.05%
same	876	0.04%
differ	426	0.02%
vary	410	0.02%
similarly	260	0.01%
in contrast	227	0.01%
comparable	225	0.01%

4. Text Creator and Text Constructor

A model which may prove useful when seeking to capture the specifics of the semantic domain of general comparison is Sinclair's (1981) distinction between the interactive and autonomous planes of discourse, considered as two different but complementary ways of looking at a written text. On the *autonomous plane* a text says things about the entities of the world – "in other words, we are looking at the text in terms of its content rather than of its construction" (Hunston 2000: 176). On the *interactive plane*, instead, "the text reflects (and constructs) the ongoing interaction between writer and reader" (ibid.: 176). While, indeed, the former is concerned with what is outside discourse, the latter is concerned with what is inside it, that is, it deals with the way textual construction is realized and signalled. In what follows I shall argue that comparison operates on both planes bringing the dual role of writer and reader to the fore. In keeping with Hunston, on the *autonomous plane* we understand the writer as an informer, who provides information regarding the content of the text; on the *interactive plane* the writer is a text constructor, who informs the reader about the structure of the text. A number of items that signal comparison explicitly will be selected from among those most frequently used (see Table 2 above) in an attempt to best represent the three subfields of comparison occurring in EBM texts: difference, identity and similarity.

4.1 Comparison on the Autonomous Plane: Descriptive Meanings of Comparative Items

Comparison on the autonomous plane fulfils a descriptive function. Real-world entities may be described in terms of the number of features they share. Descriptive meaning is realized either at clause or nominal-group level.[4] In the former case, as visualized in Table 3, comparison consists in a relational clause of the attributive type, where a nominal group functions as Carrier[5] and the adjective of comparison as its Attribute:

(5) Since the designs of the phase 3 trials were *identical*, data were pooled to enable an integrated comparison of the treatment regimens. (BMCRN)
(6) RBC deformability, blood viscosity and RBC aggregation were normal and *similar* in both patients. (BCF)
(7) In some populations, the BMI cut-off values for a diagnosis of obesity are *different*. (EJE)

Tab. 3: Occurrences and frequency of comparative items found most often in the corpus

Carrier	Process	Attribute	Circumstance
…the designs of…	were	identical	
RBC deformability, blood viscosity and RBC aggregation	were	(normal and) similar	in both patients
The BMI cut-off values…	are	different	

The adjective *identical* in example (5) acts as Attribute. Its function is to signal that the designs of phase 3 of the trials under consideration share all the features referred to. By way of contrast, the adjective *similar* in (6) denotes that the RBC deformability, blood viscosity and RBC aggregation observed in one patient and those observed in the other share many but not

[4] The functional nominal-group notion belongs to the Hallidayan tradition. The logical function of the nominal group is realized through the sequencing of the Head noun and Modifiers. Experientially, it is analysed according to the following five main elements: Deictic, Numerative, Epithet, Thing, and Qualifier. Although the term "noun phrase" is used extensively in linguistics, in this study I prefer to use the expression "nominal group", as proposed by Halliday and Matthiessen (2004: 309-335).

[5] In accord with literature in Systemic Functional Linguistics, capital letters are used for labelling categories.

all the qualitative features involved, whereas in (7) *different* signals that the BMI cut-off values recorded in some populations share no features at all.

Another pattern used to convey descriptive meaning, especially when comparing two groups involved in a research study, is the intensive attributive clause which realises the Carrier as a branched nominal group (displayed in Table 4) which includes the entities being compared:

(8) Serum C4 and ANA were not significantly *different* between the groups. (SJKDT)

Tab. 4: Carrier as a branched nominal group

Carrier	Process	Attribute	Circumstance
Serum C4 and ANA	were not	significantly different	between the groups

Here, *different* assigns a quality to both Serum C4 and ANA; they share at least some important qualitative features, if not all.

As shown in Table 5, likeness/unlikeness may also be construed using two separate entities, one designated by the nominal group, a Carrier, the other by a prepositional phrase modifying the Attribute:

(9) These data are *different* from those in the previous experiments. (HB)
(10) The placebo regimen is *identical* to the selenium regimen. (Trials)
(11) These findings are *similar* to the one other published randomized trial targeting high-risk toddlers that has follow up data. (IBD)

Tab. 5: Likeness/unlikeness expressed by means of two separate entities

Carrier	Process	Attribute	Circumstance
These data	are	different	from those in the previous experiments
The placebo regimen	is	identical	to the selenium regimen
These findings	are	similar	to the one other published randomized trial targeting high-risk toddlers that has follow up data

Table 6 below shows that the entities compared may be (un)like each other in all (12), many (13) or some respects (14; see also 15 and 16). On all occasions, the features that are compared follow the Attribute in a prepositional phrase.

(12) These 29 women were *comparable* to the women originally included, in all aspects. (Springerplus)

(13) The randomization groups were *similar* at baseline, except for marital status. (O&G)
(14) The groups were *similar* with regard to age, sex, type of fracture, and prior administration of pain medication. (PEC)

Tab. 6: Likeness/unlikeness in all/many/some respects

Carrier	Process	Attribute	Circumstance
These 29 women	were	comparable	to the women originally included, in all aspects
The randomization groups	were	similar	at baseline except for marital status
The groups	were	similar	with regard to age, sex, type of fracture, and prior administration of pain medication.

Rather than being realised as Attribute, however, the comparator may be construed metaphorically[6] (Table 7), and thus be encoded in a circumstantial verb serving as Process in a circumstantial attributive clause:

(15) Metal accumulation in the human uterus *varies* by pathology and smoking status. (F&S)
(16) Expression of positive emotions *differs* in illness and recovery in anorexia nervosa. (PR)

Tab. 7: Metaphorical comparators

Carrier	Process	Circumstance
Metal accumulation in the human uterus	varies (= be + different)	by pathology and smoking status
Expression of positive emotions	differs (= be + different)	in illness and recovery in anorexia nervosa

Here a quality is construed as a qualitative Process rather than as a qualitative Attribute. Both Processes, *varies* and *differs*, can be, in fact, unpacked as a circumstantial relation: “be + different”.

[6] In Functional Grammar (Halliday 1994; Halliday, Matthiessen 2004) *metaphor* means the substitution of one grammatical class, or one grammatical structure by another. For example, processes or qualities may be reworded metaphorically as nouns.

Another type of metaphor is nominalization, whereby a nominal form (*difference*) conveys a Process meaning (*differ*), e.g. *difference* and *differ* in (17):

(17) No significant *difference* was demonstrated in rates of adverse events or withdrawal due to adverse events. (IBD)

Comparison can also be established between entities within the same nominal group, as in examples (18) and (19) as well as Table 8.

(18) Prescriptions for multiple antipsychotics included combinations of 13 *different* antipsychotics. (AJP)
(19) The patients in the intensive-therapy group had a durable reduction in progression of microvascular and macrovascular complications despite *similar* levels of glycemia in the two groups. (NEJM)

Tab. 8: Nominal-group-internal comparison

Numerative	Epithet	Thing	Classifier
13	different	antipsychotics	
	similar	levels	of glycemia

As can be seen, (un)likeness is attributed to a given entity. Contrary to attributive relational clauses, however, this quality is comprised in the nominal group itself (18: *13 different antipsychotics*; 19: *similar levels of glycemia*). The comparator serves as Epithet[7] in prenominal position and there is no external reference. That is, the comparison occurs completely within the same nominal group where two entities (18: *antipsychotics*; 19: *levels*) are compared to each other.

The same comparative-descriptive function may also be performed at clause-complex level by using conjunctive adjuncts, like *similarly*, *likewise*, *in the same way*, *differently*, *in/by contrast*, *otherwise*, and *as opposed to*. In this case a comparative relationship is established between what is being said and what has gone before, typically signalling (un)likeness of events:

(20) Over a 12-month period, children had average gains of approximately 16 standard points in their DQs, 15 months in their mental ages and 16 months in their language ages. *Similarly* their cognitive scores also improved by 12–13 months over the year. (IB&D)

[7] The Epithet (Halliday, Matthiessen 2004: 318-319) indicates a quality of the Thing which can denote an objective property, or else convey the speaker's or the writer's subjective attitude towards the Thing.

(21) Linear ubiquitination and NF-κB activation are impaired in the patient's fibroblasts stimulated by IL-1β or TNF. *In contrast*, the patient's monocytes respond to IL-1β more vigorously than control monocytes. (JEM)

Crucially, lexical items for descriptive comparison occupy different positions on a continuum of degrees of likeness/unlikeness. Table 9 relates them to the qualitative features that entities being compared may share.

Tab. 9: Continuum of descriptive likeness (Breban 2010)

all	many	few	none
identity	similarity	difference	dissimilarity

4.2 Comparison on the Interactive Plane: Indexicality of Comparative Items

While comparison on the autonomous plane foregrounds the (un)likeness of referents which may or may not share one or more sets of qualitative features, comparison on the interactive plane acts as a text-organizing resource, establishing a relationship of identity or non-identity between two or more referents.

(22) According to the recommendations of the Cochrane Collaboration, the quality of the 15 studies was assessed based on the study design, conduct, and analysis. *Different* assessment items were used for RCTs and cohort studies. (PO)

(23) Hormone therapy reduces the risk of fracture by up to 24% in postmenopausal women with and without osteoporosis. However, this benefit is outweighed by the overall health risks reported for hormone therapy. *Other* therapies such as vitamin D and calcium supplementation have had mixed results on fracture risk in older populations. (IP)

In example (22), *different* does not indicate how many qualitative features are shared by the items being compared. Rather, the adjective helps identify the referent described by the complex noun that it modifies. Specifically, it indicates that the assessment items used for RCTs and cohort studies (which do not include study design, conduct, and analysis) are not those recommended by the Cochrane Collaboration. Similarly, the adjective *other* in example (23) sets up a relationship of non-identity by signalling that distinct referents are involved. The instance of therapies being referred to by the writer is not the previously mentioned hormone therapy. However, in neither of these examples does comparison have a descriptive value or deal with a given feature of the referent in the real world. Rather, in all cases the comparison establishes a relation between discourse referents. As a result, both comparative items perform a function which is typically served by post-Deictics, or post-Determiners (see Sinclair 1990; Halliday 1994). While Deictics indicate "whether or not some specific subset of the Thing is intended; and if so, which", post-Deictics add further "to the identification of the subset in question […] by referring to […] its similarity/dissimilarity to some other designated subset" (Halliday, Matthiessen 2004: 316).

The comparative item in the following example is employed similarly to construct a referential comparison, though of the identity type.

(24) For this pilot design a sample size of 15 subjects per group was estimated to be sufficient, because in previous studies with Palaeolithic-type diets [15,21] *the same* number of subjects showed positive changes in BP, glucose tolerance, lipids and inflammation parameters within two weeks. (LHD)

Here *same* creates an anaphoric relationship of identity with an element in the preceding discourse, *15*, indicating that the number being referred to is not mentioned elsewhere.

Comparative relationships may also be established cataphorically, that is, with the comparator (*same*) pointing to a referent (the tests and variables used in the authors' previous studies) located in the post-modifying prepositional phrase.

(25) The individual tests and dependent variables are *the same* as our previous study. (JRM)

What should not go unnoticed is that a double identification mechanism is applied. The adjective of comparison may, in fact, combine with the definite determiner forming a single, semantically complex, determiner unit (Langacker 2002; Breban 2010): units such as *the same* (25) or *the other* (26) indicate whether or not the reader has already established mental contact with the referent denoted by the nominal group. In (25) the determiner *the* signals that the reader is supposed to be able to identify which number is at issue, while the adjective *same*, in turn, provides additional deictic information, indicating that mental contact with the appropriate referent has already been made and can be retrieved phorically, having been mentioned or implied somewhere in the previous discourse. A different example is (26), where the comparative item (*the other*) signals that a new instance of the same type (*adverse event*) is introduced into the discourse: the reader has not yet established mental contact with it.

(26) Two adverse events were procedural complications. One was a post□ lumbar puncture headache and *the other* was a complication of a peripheral intravenous line insertion. (Q&SHC)

Comparative items preceded by definite determiners represent a pattern which is greatly exploited in scientific discourse, especially when reference is made to the composition of research groups, for instance when relating to the enrolment of subjects or when commenting results, as in (27).

(27) Among the OA patients, 1,411 patients (82.2%) with a wide range (59.7%-100.0%), according to the individual study had been pathologically diagnosed as having acute appendicitis with/without periappendiceal abscess or perforated appendicitis. One hundred eighty-three patients (10.6%) with a limited range (0.0%-33.6%), had a normal appendix (negative appendectomy rate). *The other* patients (7.2%) had right ovarian cyst, endosalpingosis, ectopic pregnancy, ascending colon cancer and acute peritonitis, etc. (KJR)

In *the other*, the item *other* creates a phoric relationship of non-identity between a portion coded in the definite nominal group, and an entire set which includes that portion. It conveys the fact that its referent is identified by subtraction, as the remaining instances (7.2% of patients with right ovarian cyst, ...) of the broader instantial set (82.2% of patients with acute appendicitis …), excluding the instances already mentioned in the previous discourse (10.6% with normal appendix). Here too, the presence of the definite determiner *the* conveys an additional identifying meaning, showing that the reader can recognize the specific instance denoted by the nominal group, without specifying in what way. It is the comparative item that specifies how the reader can identify the instance, that is, through referential phoricity.

The above examples illustrate instances of referential comparison expressed as an external relationship. But the same post-Deictic meaning can also be construed internally, within the nominal group itself. In this specific case the meaning is mainly distributive:

(28) Reported risk, odds or hazard ratios across *different* exposure categories of alcohol consumption. (BMCPH)

For example, this caption contains the relation of non-identity between the instances included in the instantial set denoted by the nominal group *exposure categories*, each of which presents distinct *risk*, *odds* or *hazard ratios*. The comparative item foregrounds the composition of the instantial set into single instances in a relation of referential non-identity with each other.

Notice, however, that other semantic variants of referential comparison are possible. Consider example (29), where a relation of non-identity is established between *bars*, as one instance of the "*recreational-facility*" type, and those instances of the type referred to by the nominal group *other recreational facilities*.

(29) Participants were sexually active women recruited from community settings, reproductive health or family planning clinics, or bars *and other* recreational facilities where high levels of HIV infection have been documented. (PO)

Following Breban (2010), the comparative item *other*, especially in the pattern *and other* functions as a Classifier, in that it establishes a relation of non-identity with an antecedent sub-type. The antecedent sub-type *bars* provides further information regarding identity, specifying that it is a sub-type of the "*recreational-facilities*" type.

5. Subjectivity as Part of the Semantics of Comparison

In their attempt to delineate the main features of specialized languages, a number of scholars have discussed how objective, impersonal and non-involving scientific discourse may or should be (Bazerman 1984; Myers 1989, 1990; Thompson, Ye 1991; Hunston 1993, 1994; Gotti 2003). Scollon and Scollon, for example, claim that scientific texts "should appear to give nothing but information […], they should appear to be making no attempt to influence the listener or the reader except through his or her exercise of rational judgement" (1995: 108). This position is also held by Swales, when he asserts that a research article should give "an impression of untransmuted raw material" (1990: 125). Gotti (2003), too, recognizes that objectivity and a non-emotive tone are among the main features of scientific language, even though he insists that to enhance the persuasive force of their texts, authors may choose to violate these 'constitutive principles' of scientific expression. Crucially,

> in more recent years linguistic research has become increasingly aware that these traits are in actual fact accompanied by a complex set of covert and

> (more rarely) overt strategies aimed at modulating the author's commitment, controlling the recipient's response […] and encoding the speaker's attitude towards the content of her/his discourse. (Garzone, Sarangi 2007: 23)

In fact, the objectivity required of scientific texts appears to imply the unobtrusiveness of the author, the cancellation of his/her presence. Drawing on Breban's (2010: 115) definition of *subjectivity* as involving "text showing the signs of the presence of the speaker", I claim that the comparative mechanisms which have been dealt with so far may, in different ways, bring the relationship between the participants involved in medical texts, the text producer and the audience, into focus, thus investing them with subjective meanings.

On the autonomous plane comparison is associated with representational semantics, describing semantic relationships established between entities of the world. To some extent, these can be said to be described objectively, in terms of comparative features of un/likeness and independently of the writer and reader. Comparative relationships between the two entities also exist outside of the text. The identity/similarity/difference relationship pertains to two specific referents in the world, regardless of the text in which they appear. Nonetheless, since comparative items employed on this plane are typically gradable, the use of strengthening elements (30: *very*; 31: *significantly*) submodifying the nominal group may confer a veneer of subjectivity on the statement, "indexing speakers' perspective on an entity" (Athanasiadou 2007: 556):

(30) This approach allowed us to create stimuli that were *very similar* to each other. (NN)
(31) Citalopram-treated subjects had *significantly different* changes in Aß concentrations over time compared to placebo. (STM)

Here the expression of the writer's 'self' may be perceived through the submodifier. The insertion of intensifying adverbs such as *very* or *significantly* exhibits stance-taking on the part of the writer and reveals a hint of subjectivity in the statement. The writer expresses an evaluation with regard to the entity denoted by the nominal group to attract the reader's attention. As a result, the ideational meaning conveyed by the comparison is invested with an interpersonal meaning too. Comparison is thus attitudinally subjectivised to perform what Thompson and Thetela (1995) call an 'interactional' function, that is one aimed at engaging the reader.

By way of contrast, comparison on the interactive plane is associated with the organizational semantics of discourse, performing not a propositional but a textual role, and is also achieved by means of comparative items, such as *other*, which "behave as peripheral adjectives [which] are not gradable and have no predicative alternates" (Breban 2010: 159). The addition of a strengthening element would render the comparison either ungrammatical (32) or semantically different (33):

(32) For small cell lung cancer, the cumulative evidence for lack of association (OR = 1.05, 95% CI = 0.99 to 1.09) was strong (Table 2). (very*) *Other* subgroup analyses performed for lung cancer are reported in Table 1. (JNCI)

(33) According to the recommendations of the Cochrane collaboration, the quality of the 15 studies was assessed based on the study design, conduct, and analysis [23]. (very) *Different* assessment items were used for RCTs and cohort studies. (PO)

Whereas in (32) the sentence containing *very** is grammatically unacceptable, in (33) the addition of *very* causes the comparison to shift from the interactive to autonomous plane.

Notwithstanding this grammatical-semantic limitation, comparison on the interactive plane is also invested with an additional interpersonal reader-oriented meaning. In actual fact, if on the one hand this level of comparison indexes a relationship between an entity and a subsequent or preceding portion of the discourse, on the other hand, it also indexes the author's "audience-sensitivity and relationship to the message" (Hyland 2005: 4), and acts as a device through which the medical writer projects him/herself into the discourse in order to facilitate reading, by providing referential information such as to enable readers to process and comprehend the content being conveyed as best they can. Unlike what happens with comparison on the autonomous plane, on the interactive plane comparison serves a referent-identification discourse function, signalling how the information should be decoded. As a result, outside of that specific stretch of text, with that specific anaphoric/cataphoric antecedent, the comparative relationship cannot express the same meaning. Indeed, this device brings to light a type of subjectivity which is not so much attitudinal as textual, invoking writer-reader negotiations concerning how the text should be interpreted. The writer takes responsibility for successful communication by facilitating reader interpretation. This mechanism is of fundamental importance to medical discourse where new information needs to be integrated and converted into relevant evidence by the very fact of being similar to/identical to/different from other information already available within the same discourse space. To conceptualize the specific type of subjectivity involved in interactive comparison it is more appropriate to resort to the notion of *intersubjectivity*, since writer and reader are actually part of the semantics. The writer is aware of the reader and seeks to provide him/her with the instructions required to decode the information properly. As Hunston puts it "for a text […] to work as communication, there must be frequent indications of attitudes held towards information given in the text and towards the communicative value of the discourse itself" (1994: 191).

6. Conclusions

The study of comparison may offer insights into how medical writers present their experiments and findings to the members of the scientific community. Comparative mechanisms are so widespread in health-care research papers that they contribute greatly to the construction of knowledge and its dissemination in the field. From the investigation carried out here, it would appear that evidence tends to be conceptualized within a comparative framework. Data achieves significance and acquires status as scientific evidence mostly when, or to the extent that, it may be contrasted/compared with other data belonging to the same or other studies. But this representational function is only one aspect of the multi-faceted semantic make-up characterising comparison. To this end, comparison is largely employed as an efficacious reader-oriented strategy to organize the flow of the discourse and facilitate interpretation. Comparative items are associated, in fact, with other discourse functions pertaining to interpersonal and textual meanings and foreground the role of the writer as a text creator, whose main task it is not only to fill pre-existing information gaps but also to foster the transfer of significantly meaningful evidence into health-care practice. As a result, a writer who avails of EBM is concerned both with the representation of scientific evidence and with the process of its dissemination, the latter of which involves "an active approach of spreading evidence-based interventions to the target audience via determined channels using planned strategies" (Brownson, Colditz, Proctor 2012: 26).

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CHAPTER FOUR

THE DISSEMINATION OF DIETARY TREATMENTS FOR REFRACTORY EPILEPSY: A PRELIMINARY ANALYSIS OF WEB-BASED DISCOURSE ON THE KETOGENIC DIET

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Abstract: New media and Web 2.0 are having a significant impact on science and technology for the communication of specialized topics from experts to non-experts (Garzone 2007). Many studies have focused on the dissemination of medical discourse through digital media (see, among others, Luzón 2015; Turnbull 2015a, 2015b; Maglie 2017; Mattiello 2017); however, to the best of our knowledge, limited empirical research has been conducted on investigating the intersection of knowledge dissemination and health literacy (Muñoz-Miquel 2012; Briones 2015) especially for chronic diseases such as epilepsy. Thus, the purpose of this paper is to analyse the strategies employed for the dissemination of medical knowledge to caregivers (i.e., definitions, denominations, reformulations, exemplifications, scenarios; Gülich 2003; Calsamiglia, van Dijk 2004; Garzone 2006) through web-based materials, dealing in particular with a specific dietary treatment for refractory epilepsy in paediatric patients – the Ketogenic Diet. The analysis is carried out on a corpus of web-based informative materials, the so-called *Keto-Corp*, collected from the websites of the two major foundations providing information on the Ketogenic Diet: the *Matthew's Friends Foundation* (https://www.matthewsfriends.org) for the UK and the *Charlie Foundation* (https://charliefoundation.org) for the US. From a methodological perspective, recourse to corpus linguistics and discourse analytical tools shall enable us to investigate not only the dissemination strategies involved but also the metadiscourse used (Hyland 2005) to make the audience participate to the construction of knowledge.

1. Introduction

Knowledge dissemination (KD) of English for Special Purposes (ESP) has become the center of increasing scholarly interest in the past years. The prevalent focus of this body of research has been on the dissemination of scientific discourse (see, among others, Gotti 2005, 2013; Ciapuscio 2003; Gülich 2003; Calsamiglia, van Dijk 2004; Garzone 2006, 2007). Many studies have focused on the dissemination of medical discourse through digital media (see, among others, Luzón 2015; Turnbull 2015a, 2015b; Maglie 2017; Mattiello 2017); however, only few studies have investigated the intersection of knowledge dissemination and health literacy (Mūnoz-Miquel 2012; Briones 2015) especially for chronic diseases such as epilepsy.

The notion of health literacy (Wolf et al. 2008) has become increasingly important in the last decades. In fact, limited health literacy among patients/caregivers has often been associated with poorer clinical outcomes and patients' life quality (Dray, Papen 2004; Elliot, Shneker 2008; Bautista et al. 2009, 2015) and higher healthcare costs. The effects of scarce health literacy have already been studied in diverse chronic conditions, for instance asthma (Mancuso, Rincon 2006), HIV/AIDS (Kalichman et al. 2000), diabetes (Schillinger et al. 2002; Bigi, Rossi 2015; Turnbull 2015b). But only few researchers have examined the role of health literacy among epilepsy patients (Elliott et al. 2007; Bautista et al. 2009). Yet, epilepsy is a major neurological problem, diffused in general population as diabetes mellitus type I is (Heinemann et al. 2006).

Epilepsy is a chronic brain disorder resulting in an extremely low life quality. 70% of patients can be treated with antiepileptic drugs, but those with refractory epilepsy need alternative cures, surgery, or Ketogenic Diet. The Ketogenic Diet is a high-fat, low carbohydrates nutritional treatment that has spread in the UK and in the USA thanks to the activity of two major foundations – the *Matthew's Friends Foundation* and the *Charlie Foundation*, respectively. Since the putative benefits of the Ketogenic Diet are still the subject of much debate, their aim is to provide clear and exhaustive information to parents who would like to approach this therapy on the diverse syndromes which can be treated with the diet as well as on the guidelines to be followed in the implementation of the treatment in order to help them in making the right choice for their children.

In Italy, knowledge of the Ketogenic Diet is still scarce and parents do not find adequate information. From these premises, we developed the *FAR 2015 Project: Exploring Health Literacy in liaising with caregivers: The case of the Ketogenic Diet*, funded by the University of Modena and

Reggio Emilia, Italy. The present paper will discuss some preliminary results on the data retrieved. The FAR 2015 project addresses the recontextualizing procedures involved in written communication with caregivers, who need to be able to mediate health practices to paediatric patients. The aim of the project is thus to develop a linguistic framework for assessing best practices in informative materials for chronic paediatric patients and their caregivers. The project is based on a case study on the communication of the Ketogenic Diet in the UK and US by two major foundations – Matthew's Friends and The Charlie Foundation. Using a multi-layered methodology, the study involves:

- investigating the role of genre theories in developing a framework to critically appraise doctor-caregiver written communication;
- exploring best practices in UK-US informative materials by analysing textual genres (both traditional and computer-mediated genres) and discursive strategies;
- adapting them to the Italian context to design new online materials (for a website, YouTube channel and app) in collaboration with the dieticians of the School of Biomedical Sciences [Dipartimento di Scienze Biomediche] at the University of Modena and Reggio Emilia.

A body of discourse-analytic research has examined health information materials (Sarangi 2007) like pharmaceutical brochures (Coupland, Williams 2002) and leaflets (Cacchiani 2013) on specific treatments (Clerehan, Hirsch, Buchbinder 2009). Other studies have focused on media texts, i.e. newspapers (Lupton 1992, 1999; Seale 2001) and magazines (Candlin, Candlin 2003; Coupland, Williams 2002). According to Dixon-Woods (2001), there have been two main trends in the literature: "patient education", which assumes patient incompetence, and "patient empowerment", which assesses the extent to which printed information facilitates patients' participation to shared decision making. When looking at patients'/caregivers' use of (and reactions to) such texts, many recent studies (Molina 2001; Nicholas et al. 2001; Smart, Burling 2001; Eysenbach et al. 2002) have taken a cognitive approach focusing only on statistical estimates of readability (Payne 2000) and paying little attention to contextual and institutional aspects of health literacy. Readability formulas tend to assume a direct relationship between average sentence lengths, number of words and the ability to act upon the information received (Dray, Papen 2004), while not factoring in the overall organization of the text, readers' prior knowledge and author-reader relationships. Given that this is key to understanding written texts, there is still need for an analysis of best practices in doctor-caregiver written communication.

The present paper draws on the research strands outlined above and takes the first steps to addressing the following questions: What are the strategies of knowledge dissemination used in the web-based discourse of the two major foundations mentioned above? How do they construct their discursive presence as experts? What are the linguistic features involved in building a relationship with caregivers?

In Section 2, the materials under investigation and the methodological guidelines are presented. The findings of the study are then reviewed in Section 3 and discussed in Section 4.

2. Materials and Methodological Guidelines

The study was performed on a corpus of web-based informative materials, the so-called *Keto-Corp*, collected from the websites of the two major foundations providing information on the Ketogenic Diet, namely the Matthew's Friends Foundation (https://www.matthewsfriends.org) for the UK and the Charlie Foundation (https://charliefoundation.org) for the US. *Matthew's Friends* is a registered charity which was founded in 2004 by Emma Williams, Matthew's mum. She felt the need to work with other parents of children with refractory epilepsy since she thought she had been given a lot of false information about the Ketogenic Diet and as a consequence her son had been denied that treatment for too long before she obtained the right facts about it. Thus, the foundation was created in order to make sure that the correct information was available for all regarding ketogenic therapies. As Emma Williams argues: "[Parents] have the right to make an 'informed' choice. The diet won't work for everyone and some will find it easier than others to do, but everyone has the right to a choice and to know that support is there for them if they should need it" (https://www.matthewsfriends.org; accessed 01/07/2017).

The Charlie Foundation for Ketogenic Therapies was founded in 1994 to provide information about dietary therapies for people with epilepsy, other neurological disorders and select cancers. Charlie Abrahams was the inspiration for the foundation since as a child he had developed refractory epilepsy and, as a last resort, his parents had turned to the Ketogenic Diet for help. They had been fighting against misinformation for a long time before Charlie got treated with the diet and as a consequence they decided to devote their lives to help parents in the same situation.

The *Keto-Corp*, collected in June 2017, consists of 44,030 tokens and is divided into three sub-corpora:

- *Dietary Treatment*, including all the webpages describing the different types of Ketogenic Diets: the classic Ketogenic Diet, the Modified Atkins, and the MCT (medium chain triglyceride) diet;
- *Guidelines*, dealing with the different steps that caregivers need to perform to manage the diet;
- *Syndromes*, describing the neurological diseases/syndromes causing refractory epilepsy that can be treated by implementing the Ketogenic Diets.

In merely quantitative terms the corpus could be considered too small to even deserve to qualify as a corpus, the orthodox view being that the larger a corpus is, the better. However, we should specify that the size of Keto-Corp is as big as the available data allowed for. Moreover, as stated by Vaughan and Clancy (2013: 53) “smaller corpora provide a platform for not only establishing the range and frequency” of a wide array of linguistic indicators, but also for sharpening our knowledge of “the role of different genres or contexts in characterising their use”.

From a methodological point of view, the study combines corpus and discourse analytical tools. First of all, the materials were examined with a discourse analytical perspective to find out the strategies employed for the knowledge dissemination of medical discourse in the communication from expert to non-expert.

Research on expert to non-expert communication has identified several strategies facilitating knowledge dissemination and they have generally been divided into two broad categories: Illustration (Formulation) and Reformulation (Table 1; cf. Ciapuscio 2003; Gülich 2003; Calsamiglia, van Dijk 2004). The former are the procedures chosen to present knowledge; the latter change or modify what has already been said to clarify the meaning and make it more comprehensible:

- *Illustration strategies*, also known as *Explanatory strategies*, are procedures for presenting information. They are used to explain abstract knowledge to facilitate comprehension, in that they allow lay users to relate new knowledge to their experiential knowledge. They act on every linguistic level: lexico-syntactic structures, textual structure and organization, rhetorical and stylistic structures, and so on.

- *Description* is used to explain unknown elements as it gives 'structural' information about things in terms of composition, quantity, size, localization. Explanatory descriptions transfer the world of things or the world of knowledge into textual structures and connect new knowledge to old knowledge.
- *Definitions* serve the purpose of explaining unknown words or terms, which may be very frequent in knowledge dissemination. In this way knowledge is communicated in an easy style understandable for non-experts, but at the same time keeping a shade of technical language so that lay people can identify familiar information in new contexts and establish contact with the specialized situation.
- The other three subcategories belonging to illustration strategies, *Exemplification*, *Scenario* and *Metaphorical language*, are all forms of *Concretization*. They are strategies that involve providing abstract information in a non-abstract way. Their aim is to make the information directly relevant to the layman by expressing concepts and information in everyday terms.
- *Reformulation* consists in the modification or change of what has been said to clarify the meaning. It is a strategy that involves rephrasing of difficult concepts that can be an obstacle to understanding. Usually a new notion is introduced first and then followed by an explanatory reformulation or paraphrase, or vice versa. There is a relationship of semantic equivalence between the two expressions, along with a change of register or maybe just simply a change of words.

Tab. 1. Knowledge dissemination strategies

KNOWLEDGE DISSEMINATION STRATEGIES (Ciapuscio 2003; Gülich 2003; Calsamiglia, Van Dijk 2004)
ILLUSTRATION or EXPLANATION description definition exemplification scenario metaphorical language concretization REFORMULATION paraphrase or repetition

Secondly, we moved to a corpus-based quantitative analysis of interactional metadiscourse (Hyland 2005), focusing in particular on self-mentions and engagement markers in representing the charities in their role of 'experts' while at the same time involving the receiver. On the one hand, self-mentions offer the extent of the presence of the writer in terms of possessives and first person pronouns and adjectives (*I*, *me*, *my*, *mine*, *we*, *us*, *our*, *ours*); on the other hand, engagement markers (second-person pronouns, interjection, imperative verbs and necessity modals, questions) explicitly refer to the readers, either by focusing their attention selectively or by including them as text participants (Hyland 2005).

More precisely, the Keyword function of the linguistic software package *AntConc* (Anthony 2018) enabled us to create the keyword lists of the corpus using the written subpart of the *British National Corpus* (BNC) as reference corpus; the most frequent items of metadiscourse were extracted from the first 100 keywords. They were then concordanced, i.e. analysed in the context of the respective corpus occurrences, in order to find out their preferred collocation patterns.

3. Results

3.1 Knowledge Dissemination Strategies

Moving on to the results of this preliminary analysis and starting from the strategies used in the dissemination of medical knowledge on the Ketogenic Diet, we noticed that they are distributed differently in the three sub-corpora, with definition as the most frequent strategy found in the whole corpus (22 instances). Definitions are mainly employed in the Syndromes sub-corpus (12 instances out of 22) and in the Dietary Treatments sub-corpus (8 instances) with two different functions. In the first case, definitions are obviously used to introduce unknown words or terms related to a specific syndrome. They serve the purpose of defining technical terms in a manner that is appropriate to the background of non-expert, e.g. via providing familiar information in new, professional contexts. Example (1) presents an instance of this strategy.

(1) *Tuberous sclerosis complex (TSC)* is a genetic neurocognitive disorder caused by inactivation of the tumour suppressor genes hamartin (TSC1) or tuberin (TSC2). (Matthew's Friends)

As can be seen, not surprisingly, the preferred pattern is as follows: the referential term of the syndrome, sometimes with its acronym, is given at the beginning (*Tuberous sclerosis complex (TSC)*) and its definition is provided after the existential verb *to be* in the simple present.

In the Syndromes subcorpus, definitions are often combined with metaphorical language to facilitate comprehension of complex issues. Indeed, they help caregivers relate new knowledge to old knowledge. The following example shows the combination of these two strategies.

(2) Mitochondria, often referred to as the *"powerhouse of the cell"*, are structures located inside most human cells that produce 90% of our total energy needs. Through a process called oxidative phosphorylation, mitochondria combine the oxygen we breathe with the macronutrients we eat to create cellular energy, called ATP. Mitochondrial disorders arise when insufficient amounts of ATP are created, damaging cells and compromising tissue and organs function. (Charlie Foundation)

As for the Dietary Treatment module, the main aim of definitions is to achieve complete clarity in defining the object of discourse, or the different types of Ketogenic Diets. The most frequent pattern identified is *[the] (classical ketogenic/modified Atkins/MCT diet) [is]* followed by a declarative statement describing the main constituents of the diet, as in examples (3) and (4).

(3) *[The classical Ketogenic Diet]* is a high fat, low carbohydrate, adequate protein and vitamin supplemented diet that can also be calorie restricted. In many children it can reduce seizures dramatically and in some, stop seizures completely. It is one of the oldest forms of epilepsy treatments available but it fell out of favour. (Matthew's Friends)

(4) *The Low Glycemic Index Treatment (LGIT)* is a diet that emphasizes complex carbohydrates over simple sugars, and is not intended to promote ketosis. Developed in 2002 as an alternative to the Ketogenic Diet, the LGIT constricts both the total amount of daily carbs and the Glycemic Index, referring to the effect on blood glucose after eating. (Charlie Foundation)

Moving on to the Guidelines module, the dissemination of knowledge about the ketogenic diet is managed through the frequent use of scenarios (11 instances) (Gülich 2003). They present hypothetical situations with which the caregiver can identify. Therefore, there is a kind of concretization of the information. As can be noticed in the following examples, scenarios serve two main functions: relating abstract medical information to everyday life and experience (Gülich 2003), as in example (5), and recreating a hypothetical interaction that may take place during medical encounters, as in example (6).

(5) The Ketogenic Diet involves a complex manipulation that affects many genes in the body but remember that most of those changes don't reverse on the time scale of less than an hour so if your kid has a candy bar on the diet he will lose their seizure protection within thirty minutes or an hour. (Charlie Foundation)

(6) What happens if my child grabs somebody else's food and eats some?

- *If* spotted in time, carefully *remove* as much of the extra food as possible.
- *If* the food is a high fat/protein source e.g. some cheese or a sausage, there may be limited effect. If the food is a high carbohydrate source e.g. sweets, bread, biscuits etc, *you* could try giving a portion of fat soon after, to slow down the absorption and effect of the extra carbohydrate. Fat emulsions such as double cream, Calogen, Carbzero, Liquigen, Betaquik or simple oil or butter are a possibility.
- *Adjust* the foods included in the next meal or snack to compensate.
- *Monitor* closely according to your normal protocol (e.g. blood ketones, blood glucose) and have your emergency medications at the ready. It may be that the indiscretion will only have a transitory effect on blood levels and no effect on seizure pattern. Keep a close watch and ensure the diet is very accurate for next few days. (Matthew's Friends)

In example (5), the scenario provides a hypothetical situation introduced by the subordinating conditional conjunction if followed by a real-life case (*if your kid has a candy bar*). This creates a vivid image of a situation in which the caregiver could find him/herself. It is a form of concretization through which abstract information is reworded in a non-abstract manner in the attempt of making the information directly relevant to the caregiver.

On the other hand, in example (6) the scenario recreates a question-answer pair that may take place during medical encounters. That is, the caregiver asks a question and receive the information requested from the doctor. The interrogative sentence precedes a series of declarative statements that can be of two types: conditional statements introduced by the subordinating conditional conjunction if followed by the instruction to be enacted usually at the imperative form (*If spotted in time, carefully remove […]*); imperative statements telling what the caregiver should do in a specific case. Like example (6), all the instances of hypothetical interactions found in the corpus are related to practical issues arisen in the management of the diet.

One last frequent strategy of knowledge dissemination that can be found in the corpus is exemplification (9 instances), illustrated in example (7).

(7) Children on carbonic anhydrase inhibitor medications (*for example*, topiramate or zonisamide) may have increased risk of excess ketosis and metabolic acidosis on commencing ketogenic therapy. (Matthew's Friends)

As can be noticed, exemplification gives specific and concrete instances of objects (in this case medications), phenomena or situations. This is a strategy involving concretization, thus it helps caregivers relate abstract and maybe unknown technical notions (carbonic anhydrase inhibitor medications) to something they may have encountered in their everyday life (specific medications whose names could be more familiar).

Contrary to the strategies of knowledge transfer that we have highlighted above, however, the corpus also showed a high occurrence of technical vocabulary (e.g., *exogenous ketones*, *aetiology*) and acronyms (e.g., *LDL*, *SUDEP*, *GABA*, *ADHD*) without explanations. They are related to the chemical mechanisms of the diet and to different syndromes that can be treated with the ketogenic diet (e.g., *Angelman Syndrome, glucose transporter type deficiency, temporal lobe epilepsy*). See examples (8) and (9).

(8) The ketogenic diet significantly elevates *GABA* to glutamate ratio […] (Matthew's Friends)

(9) One of the most important risk factors that we know of for *SUDEP* is frequency of seizures and frequency of seizures that involve movement […] (Charlie Foundation)

Since epilepsy is a chronic condition in the paediatric patients treated with the Ketogenic Diet, parents become semi-experts and come to know some acronyms and technical terms related to the illnesses of their children. In fact, as argued by Turnbull (2015b: 18) "In a chronic condition in time the patient [and caregivers; S.C.] will gain great knowledge and experience".

3.2 Self-mentions and Engagement Markers in the Corpus

The preliminary analysis of the first 100 keywords of the Keto-corp showed the presence of the interactional metadiscursive items in Table 2.

Tab. 2: Keyness of self-mentions and engagement markers across the corpus

KEYWORD	RANK	FREQUENCY	KEYNESS
it	25	185	783.990
we	30	151	638.069
our	38	130	547.989
you	42	123	517.973
your	65	88	368.009

It is interesting to notice that the first pronoun we meet in the keywordlist is *it*. This indicates a certain degree of impersonality in the information given. This could be evidence of the retaining of some features academic discourse and, as a matter of fact, we mainly found constructions in the passive forms that are typical of research papers. Example (10) provides an example:

(10) However, *it has been shown* that fasting is not necessary to achieve ketosis and a more gradual introduction process can produce the same seizure control at 3 months. (Matthew's Friends)

As can be seen, the pronoun is associated to an agentless passive, which confers a scientific touch to the text. It is a way of presenting scientific evidence to caregivers via a generic reference, in fact no specific researcher(s) or institution(s) are mentioned.

As for self-mentions, the first plural pronouns are preferred with *we* and *our* occurring 151 times and 130 times, respectively. *We* is often used in an inclusive way, with the aim of creating a closer relationship with the caregivers. We have to bear in mind, in fact, that the majority of people managing and working for the two foundations are parents who have had children with refractory epilepsy and are willing to share their experiences. As a consequence, this pronoun can be considered a self-mention, but at the same time it also works as an engagement marker. The following is a representative example.

(11) When starting with the Ketogenic diet, *we* need to take into consideration several factors […] (Matthew's Friend)

Our appears to primarily combine with the word *team* (86 occurrences). This indicates the collaboration of the two foundations with the diverse specialists involved in the implementation of the Ketogenic Diet (e.g., dieticians, neurologists and paediatricians). Mentioning teamwork, as in example (12), might reassure caregivers, as their choice of following the dietary treatment will be strictly monitored by a group of experts.

(12) *Our team* is here to help you choose the right treatment for your child… (Charlie Foundation)

When addressing the reader as *you/your*, the two foundations use a more personal approach, creating a 'virtual conversation with the reader'. We could identify two most frequent patterns with *you*: One with *scenarios* indicating procedural aspects in the implementation of the Ketogenic Diet (as in example (13)), sometimes resembling the question/answer pattern of a medical consultation (example (15)); and the discussion of problematic issues for caregivers to express empathy with them (examples (14) and (15)).

(13) In the early days *you may be advised* to test urine twice a day. (Matthew's Friends)
(14) Always read the label and consult with your ketogenic team *if you are unsure of anything*. (Charlie Foundation)
(15) Is your child not eating because they see you eating different things to them? *If you have answered* 'Yes' to any of the above try the following: However much *you are anxious* – try not to show it. (Matthew's Friends)

As it may be expected, the occurrences of *you*/*your* are mainly found in the Guidelines sub-corpus, in which parents can read all the steps needed in the implementation of the diet.

4. Concluding Remarks

Knowledge dissemination concerns a real understanding of information. This is particularly relevant when dealing with health issues. Health literacy, in fact, should start from knowledge transfer of new elements that have to be integrated into the individual's existing knowledge and experience so that they are ready to be used in order to make decisions about whether or not to adopt a specific treatment, here, the Ketogenic Diet. The dissemination of medical knowledge, as in the case of this dietary treatment, not only broadens patients'/caregivers' general knowledge about their illnesses, but has a profound and direct effect on their lives. Indeed, limited health literacy among patients/caregivers involved in chronic diseases is often associated with poorer clinical outcomes and patients' life quality (Dray, Papen 2004; Elliot et al. 2008; Bautista et al. 2009). Therefore, the present paper started from the notion of patient empowerment and was aimed at assessing the extent to which web-based informative materials about the Ketogenic Diet provided by the two major foundations – namely the Matthew's Friends Foundation for the UK and the Charlie Foundation for the US – facilitate patients' participation to a shared-decision making. To reach this goal, the study analysed the strategies of knowledge dissemination used in the web-based discourse of the two major foundations mentioned above, as well as the linguistic features involved in building a relationship with caregivers.

The analysis of the corpus clearly illustrates that concretization strategies of knowledge transfer are preferred (e.g., scenarios and exemplifications). Abstract medical notions are transposed into hypothetical situations which the caregiver can then compare with his or her own personal experience to begin to understand the technical aspects of the implementation of the dietary treatment. Moreover, it is interesting to highlight that, though some medical terms are defined and complex notions are reformulated, caregivers are also seen as semi-experts when dealing with concepts related to the chronic condition of their children (Turnbull 2015b: 17-21). In fact, the corpus showed a frequent use of technical language and acronyms.

Moving on to the discussion of the results related to metadiscourse, both charities manifest themselves in the web-materials with the prevailing use of the first person plural. This is an inclusive strategy as they make the caregiver feel part of a community, i.e. parents with children affected by refractory epilepsy. As a consequence, by using the pronoun *we*, the two foundations express empathy with caregivers, thus facilitating the transfer of information that is perceived as less familiar.

Moreover, caregivers are also involved in the materials presented when they are addressed using *you*: this creates a conversational tone with a personal approach while at the same time giving precise instructions on the implementation of the diet. Interestingly, however, sometimes the foundations seem to prefer a more impersonal style, realized via recourse to the pronoun *it* in association with an agentless passive –which is typical of research papers. This helps to give scientificity to the information provided to caregivers.

To conclude, we can say that the combination of corpus methods and discourse evidence envisaged here, though being just a first step in the wider FAR 2015 project, provided some useful insights in the language of web-based informative materials about the dietary treatments for refractory epilepsy. The results obtained will be useful to create valuable web-based materials for Italian caregivers of children affected by refractory epilepsy.

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Section II

Communicating Specialized Knowledge in and about Business and Finance

CHAPTER FIVE

COMPARATIVE MECHANISMS AND RELATIONS IN INSTITUTION-CENTRED FINANCIAL KNOWLEDGE

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Abstract: The chapter examines the discursive shaping of the annual financial reports published by the European Central Bank and the Bank of Greece from 2010 to 2015. In particular, it explores how this type of written communication resorts to the use of comparative constructions in order to contrast and parallel banking performance and build different realizations of authoritative institutional identities. Specifically, by analysing the different types of comparative structures associated to specific discourse strategies such as narrative, evaluative patterns and metaphors, the study highlights the relations that are established between national and supranational institutions and the ways in which institutional identities can be legitimized and channelled into public credit or discredit. In other words, the analytical focus of comparison considers the degree of discursive convergence and divergence between the Bank of Greece and the ECB in their ways of distributing information, through a quantitative approach integrated by a qualitative investigation. Together, they enable us to identify in what ways and to what extent specific rhetorical choices in the two corpora shape distinctive degrees of variation and variability in reporting.

1. Introduction

In a context of multiple national, political and cultural identities, such as the European Union, the dissemination of institutionally-mediated specialized knowledge may be variously framed. Feasibly, national and supranational institutions may not present the EU as a single community in the communicative process, and be in contrast with an aligned idea of Europe (Papathanassopoulos, Negrine 2011: 160-161).

Hence, institutional bodies may show the discursive need to create cohesive or disjointed identities and images to legitimise their activities, to compare different performances, or to find fault in the policies implemented by the central banking authorities. In this respect, the case of EU public finance is an interesting field for the study of these features in the report genre where central banks present financial results in a national and supranational context. Consequently, a possible variety of financial discourses may reveal different expressions of 'Europeanisation' and stances by the single Member States in accepting or criticizing EU's guidance. This process involves several communicative levels that are not only related to the mere transfer of information to the potential addressees (banking institutions, professionals, public readership), but also considers the relations between national and supranational institutions, as well as their roles. All these factors affect the written release of official documents, especially when the texts aim at rating successful or unsuccessful economic performances and, at the same time, linguistically obfuscate or shed light onto the public credibility of the authorities (Gambetta 1988; Kress 2010; Candlin, Crichton 2013).

Therefore, this chapter analyses the discursive shaping of banking performance in the European Central Bank's annual reports, comparing them with those issued by the National Bank of Greece. The aim is to investigate how this type of written communication resorts to the use of comparative constructions (Campbell, Wales 1969; Huddleston 2002a, 2002b) in order to disseminate knowledge and build authoritative institutional identities. Specifically, the study explores the relevant grammatical forms and syntactic patterns exploited in marking likeness or contrast in these documents; the aim is also to show how their frequency, as well as the different types of comparative structures and degrees of *orientation* used to describe trends (Huddleston 2002b: 1098-1103), may be associated with specific dissemination strategies (Hyland 2006; Hood 2011; Hansson 2015) that help to transfer knowledge usefully and channel discourse into public credit or discredit. The analytical focus of comparison will take into account the degree of discursive convergence or divergence between Greece and the ECB, through a quantitative approach that is further integrated by a qualitative investigation. Both approaches are aimed at identifying how unique rhetorical choices in the two corpora may lead to a distinctive degree of variation and variability in reporting.

2. Materials and Methods

This paper concentrates on the discursive use of comparative constructions in a corpus of annual reports published by central banks. Financial reports are part of public informative institutional documentation describing national and supranational banking tasks, activities and performances in Europe. The ECB has been responsible for coordinating monetary policies in the euro-zone and issuing reports since 1991, like the other national state banks. The choice of the Bank of Greece rests on the economic sensitivity that this country has showed in response to the crisis and on the fact that the two banks may shape financial knowledge and discuss context-related issues differently.

The corpus was made up of annual reports published by the ECB and the National Bank of Greece between 2010 and 2015 (*ECB corpus* and *BG corpus*, respectively). To allow comparisons across institutions, the reports were grouped into two smaller sub-corpora based on their institutional origin. The ECB sub-corpus amounts to 601,691 words (10,019 types), while the BG sub-corpus is composed of 329,324 words (8,969 types).

Using *Concapp 5* (Grieves 2005), the two sets of documents were first compared in order to retrieve frequency data on comparative structures and forms/expressions having a comparative force.

The wordlist based on frequency criteria revealed that some morphological and syntactic forms were particularly relevant. By exploring their different use by the two banks it is hoped that comparative mechanisms of knowledge dissemination and identity relations will be revealed.

An important aspect characterising the relationship between knowledge, identity and communicative legitimation in academic, institutional and professional settings is related to the way in which discourse can be shaped by a range of textual features that connote multiple or heterogeneous projections of image (Scollon, Scollon 2003; Bhatia 2004; Loseke 2007; Malavasi 2010; Maraunen 2010; Prosperi Porta 2013, 2015, 2017; Bowker 2014; Salvi 2013, 2014). As Campbell and Wales (1969: 215) rightly remark,

> [i]n any kind of classification the fundamental intellectual activity is the comparing of one object, event, etc. with another or others. Further, […] our behaviour in any situation must be governed to some extent by the recognition, whether implicit or explicit, of similarities and differences between that situation and others with which we have to deal.

Particularly, discursive choices can frame an institutional target to blame or redeem in the circumstances of confidence risk, reward legitimate actions and condemn the non-legitimate ones, or shift responsibility onto others to protect credibility (Luhmann 1979; Weaver 1986; Wodak 2006; Tilly 2008). Along with these specific strategies, knowledge dissemination may also intersect with the contrast of identities and therefore involve explicit or implicit comparison among terms or entities. A further interesting point has to do with the fact that comparison may even be exploited in combination with evaluative patterns, narrative and metaphors to legitimize institutional conduct.

Following a morphological and syntactic approach, Huddleston provides a complex classification of the various types of comparative constructions, making a distinction between *scalar* and *non-scalar* comparison. As far as scalar comparison is concerned, he focuses on the *gradability* and *non-gradability* (Huddleston 2002a: 532) of some parts of speech, such as adjectives and adverbs. *Scalar* comparison has a two-fold possibility of comparing according to the categories of *equality* and *inequality*; *inequality* is further distinguished in two different subtypes that indicate *superiority* and *inferiority* (Huddleston 2002b: 1099).

> **Scalar** comparisons are concerned with relative position on some scale, such as that denoted by […] a gradable adjective and scalar comparison is one type of grading, potentially more complex than grading by means of such degree adverbs as *very, quite, rather,* etc., but of the same general kind.

Huddleston further contrasts the features of *non-scalar* comparison with the *scalar* type (2002b: 1100).

> **Non-scalar** comparisons, by contrast, are concerned not with grading but with such issues as identity and likeness.
>
> Scalar comparison can be regarded as the more central type: inflectionally marked comparatives are scalar and, within the inequality category, comparative clauses are rare in the non-scalar constructions. […] Non scalar comparison is concerned with identity vs non-identity or likeness vs unlikeness. […]
>
> Within certain kinds of scalar comparison we need to distinguish two different kinds of inequality, giving in all a contrast between three categories, not just two:

EQUALITY		as heavy as	as careful as
INEQUALITY	**superiority**	heavier than	more careful than
	inferiority	less heavy than	less careful than

> **Superiority** may be marked inflectionally (*heavier*) or analytically, by *more,* while the other categories are marked just analytically […]. Superiority and inferiority are to be interpreted relative to the particular scale at issue […]. Scales have an **orientation**, or direction, which depends on the lexical meaning of the compared item.

Within these types of constructions, a further distinction exists between *term* and *set* comparison, when comparison is expressed between a primary term and a secondary term – that is usually a noun or noun phrase in the first type – while it is applied to the members of some set in the second type. Scalar term comparisons usually resort to comparatives or superlative forms of adjectives, while non-scalar ones employ adjectives marking similarity or difference. Vice versa, scalar set comparisons usually display superlatives and adverbs of equality or inequality. Non-scalar set comparisons use *comparative governors*[1] expressing likeness of kind, identity or inequality, followed by *comparative complements*.[2] Typically, set comparisons can be rethought as equivalent term comparisons (Huddleston 2002b: 1102).

i. a. *Ed is more tolerant than he used to be.* term comparison
   b. *Kim's version is much superior to Pat's.* term comparison
ii. a. *Ed made the most mistakes of them all.* set comparison
   b. *It sold for the highest price ever paid for a Cézanne.* set comparison

Although the main purpose of this chapter is to investigate the comparative structures utilized to juxtapose economic records and consequently mark reliable or unreliable operational legitimacy among EU banks, the data will also be analysed to find out which relevant dissemination strategies accompany them in the reports of the Bank of Greece and the ECB. This analytical perspective will incorporate Hansson's (2015) approach in delineating the institutional discursive strategies used to transfer knowledge, while comparing positive or negative behaviours. According to some of the types proposed in this classification, authorial intent can deliberately use argumentation in order

[1] Huddleston (2002b: 1103) defines *comparative governors* as "the items which license comparative complements".
[2] Secondary terms that have the syntactic function of *complement* in comparative constructions or clauses are classified as "comparative complements" (Huddleston 2002b: 1104).

to achieve positive self-presentation, and authorisation to reward legitimate actions and condemn non-legitimate ones, or to uncover the manipulative strategy of mitigating mistakes. These specific instruments are often used in texts to persuade the audience and avoid blame.

3. Comparative Mechanisms and Relations in Financial Reports

3.1 Exploring Frequency Data

This section concentrates on the favoured linguistic choices used to mark comparison and signal institutional relations as a way to discursively construct accountable or blameworthy behaviour. Following Huddleston's classification (2002b; Section 2) we selected frequent items in the corpora that indicate scalar and non-scalar term and set comparison, as well as content and context-related forms showing likeness or unlikeness, accompanied by time expressions and temporal modifiers. Table 1 provides data on comparison adjectives.

Tab. 1: Comparison adjectives (ECB corpus; BG corpus)

ADJECTIVE	ECB CORPUS		ADJECTIVE	BG CORPUS	
	hits	%		hits	%
same	295	0.2320	*lower*	184	0.0559
lower	293	0.2302	*higher*	180	0.0546
higher	244	0.1880	*same*	176	0.0534
different	127	0.0971	*equal*	63	0.0191
lower than	89	0.0705	*better*	62	0.0188
higher than	76	0.0595	*lower than*	53	0.0161
similar	73	0.0580	*higher than*	44	0.0134
better	64	0.0501	*equal to*	40	0.0121
highest	55	0.0426	*similar*	38	0.0115
same as	52	0.0407	*different*	29	0.0088
equal	51	0.0392	*same as*	24	0.0073
equal to	40	0.0313	*highest*	20	0.0061
lowest	24	0.0188	*lowest*	16	0.0049
divergent	8	0.0063	*worse*	10	0.0030
worse	7	0.0012	*divergent*	1	0.0003

As can be seen, ECB reports tend to stress the difference between self- and other-performance, largely employing inflectional markers of superiority such as *higher* (244 hits; 0.1880%), inferiority such as *lower* (293 occ.; 0.2302%), or adjectives indexing equality such as *same* (295 occ.;

0.2320%) – with more hits than the BG corpus. Also, ECB appears to avoid adjectives that hold a potentially negative comparative connotation such as *different* and *divergent* (when describing departure from a positive standard of comparison). More to the point, *divergent* is especially rare over the six years, both in ECB corpus (8 hits; 0.0063%) and in the BG corpus (1 hit; 0.0003%). This could be a revealing path worth exploring in the qualitative analysis.

Crucially, adverbs – which combine with value and size adjectives or comparative governors to express grading – perform differently in the two sub-corpora. Table 2 shows that whereas the BG corpus does not make extensive recourse to them (see Table 2), the ECB corpus markedly exploits them. Examples here are *largely* (108 hits; 0.0179%), *relatively* (132 hits; 0.0219%) and *slightly* (148 hits; 0.0246%). With particular reference to *relatively* and *slightly*, it is essential to focus on their evaluative features as well as on their downgrading function: they tone down other modifiers, mostly adjectives, in comparisons and evaluations.[3]

Tab. 2: Adverbs/intensifiers modifying comparison adjectives/adverbs (ECB corpus; BG corpus)

ADVERB	ECB CORPUS		ADVERB	BG CORPUS	
	hits	%		hits	%
very	160	0.0266	*very*	77	0.0234
slightly	148	0.0246	*considerably*	71	0.0216
relatively	132	0.0219	*significantly*	68	0.0206
significantly	120	0.0199	*slightly*	55	0.0167
largely	108	0.0179	*substantially*	44	0.0134
notably	87	0.0145	*largely*	38	0.0115
rather	65	0.0108	*relatively*	29	0.0088
substantially	59	0.0098	*rather*	21	0.0064
markedly	52	0.0086	*markedly*	19	0.0058
considerably	50	0.0083	*too*	14	0.0043
too	25	0.0042	*equally*	12	0.0036
quite	9	0.0015	*notably*	11	0.0033
equally	6	0.0010	*quite*	11	0.0033
comparatively	4	0.0007	*comparatively*	2	0.0006

[3] Quirk et al. (1985: 438-627) provide an extensive classification of adverbs and adverbials considering the semantic process of grading in expressions that retain a comparative force. Specifically, adverbs that deal with the semantic category of degree are classified as *intensifiers* (*amplifiers* and *downtoners*). Intensifiers are distinct from *emphasizers* and *focusing subjuncts* (*restrictives* and *additives*). When *emphasizers* combine with a *gradable constituent*, they act as intensifiers (Quirk et al. 1985: 583).

If we move on to verbs describing comparative trends, Table 3 returns the most frequent types. Again, clear differences can be observed. The verb *increase* is less frequent in the ECB texts (625 hits; 0.1039%) compared to the BG corpus (423 hits; 0.1284%). Also, *decline* occurs more frequently in the BG corpus (398 hits; 0.1208%). An interesting question is whether or not this divergence may depend on different perceptions of institutional roles in the aftermath of the recession.

Tab. 3: Verbs describing comparative trends (ECB corpus; BG corpus)

VERB	ECB CORPUS		VERB	BG CORPUS	
	hits	%		hits	%
increase	625	0.1039	*increase*	423	0.1284
decline	315	0.0524	*decline*	398	0.1208
decrease	145	0.0241	*decrease*	162	0.0492
rise	138	0.0229	*rise*	155	0.0471
improve	94	0.0156	*fall*	101	0.0307
return	91	0.0151	*drop*	83	0.0252
reduce	90	0.0150	*improve*	78	0.0237
fall	72	0.0120	*reduce*	77	0.234
advance	41	0.0068	*return*	70	0.0213
move	18	0.0030	*advance*	26	0.0079
drop	14	0.0023	*grow*	7	0.0021
grow	11	0.0018	*move*	7	0.0021

From the analysis of comparative governors and locutions (Table 4), a diversification in raw frequencies between the ECB and the BG corpus clearly emerges. The BG corpus shows a significantly higher frequency of structures indexing equality, such as *as…as* (2499 hits; 0.7575%) and *as well as* (325 hits; 0.0987%); a different record can be traced with locutions describing comparison either from a temporal or spatial point of view: the expression *compared with* (ECB: 269 hits; 0.0446%; BG: 198 hits; 0.0607%) is proportionately far more frequent in the ECB, and is used to identify comparison or contrast both in space and time. In the same way, the locution *in line with* (172 hits; 0.0286%) is used to mark institutional alignment, registers a relevant performance. Conversely, the BG corpus often seems to rely on the locution *from…to* (836 hits; 0.2560%) to compare banking results across time, and its percentage distribution is noticeably higher compared to the ECB (854 hits; 0.1400%).

Tab. 4: Comparative governors and locutions (ECB corpus; BG corpus)

GOVERNOR/ LOCUTION	ECB CORPUS		GOVERNOR/ LOCUTION	BG CORPUS	
	hits	%		hits	%
as…as	4351	0.7231	*as…as*	2499	0.7575
from… to	854	0.1400	*from…to*	836	0.2560
as well as	458	0.0760	*as well as*	325	0.0987
compared with	269	0.0446	*compared with*	198	0.0607
such as	219	0.0364	*such as*	93	0.0282
in line with	172	0.0286	*in line with*	38	0.0115
as in	84	0.0140	*as in*	36	0.0109
so as	16	0.0027	*so as*	30	0.0091
as before	10	0.0017	*as before*	4	0.0012

3.2 Qualitative Data Analysis

For the sake of brevity, only a small selection of the main types of comparison found in the corpus will be presented here. The most relevant examples were analysed, especially when combined to specific language features, in view of showing how public institutional images can be rewarded or damaged in the reports by the transfer of knowledge.

From a closer examination of the reports, it can be said that the ECB's attitude towards European financial knowledge is frequently displayed through evaluative and narrative patterns, in order to firmly support the Bank's policies. Also, the BG corpus shows the exploitation of these features to assist argumentation, presumably with a different pragmatic motivation. In addition, the narrative shows its discursive prominence in the comparison of trends. A recurrent linguistic pattern in the corpora consists in comparing financial data by the association of verbs indicating orientation (improvement or reduction) with adjectives, adverbs and explicit temporal reference. This pattern can also embed figurative language, as shown in examples (1) and (2).

(1) Risks to euro area financial stability increased considerably in the course of 2011 as the sovereign debt crisis and its impact on the banking sector worsened. Particularly in the second half of the year, contagion effects in larger euro area countries gathered strength amid rising headwinds from the interplay between vulnerable public finances and the financial sector. This was accompanied by weakening macroeconomic growth prospects, especially towards the end of the year. Euro area bank funding pressures increased markedly in several market segments, including unsecured term funding and short-term US dollar funding. (ECB 2011: 8)

(2) Trade, which had been badly hit in 2009 and was the main channel of contagion of the recession across regions, rebounded markedly in 2010.

The volume of world trade in goods and services returned to its pre-crisis levels in 2010, growing by 12.4% after contracting by 10.8% in 2009, and is expected to increase by 7.4% in 2011. (BG 2010: 37)

In (1) the ECB introduces a narrative to present a very critical financial year in the euro area. Reference to time is clear here, with overt mention of the facts in the current year, which is grounded in statistical variation over time. The diachronic telling of events helps to reveal the implicit comparison of performances across countries and stages. Along with the narrative, verbs like *increase* and *gather* take on evaluative force by collocating with adverbs such as *considerably* and *markedly*; in this case, the two verbs, usually denoting increase and significance, cannot take on any positive connotation, because they refer to rising financial instability (e.g., *vulnerable public finances*) and disruptive contagion effects, as conveyed by the powerful metaphor in *contagion effects gather[ing] strength amid rising headwinds [ing] in larger EU areas* (that is, the wind blowing over EU countries to spread contagion). This idea is reinforced by the personification of public finances seen as *vulnerable* and *weakening*.

In (2) *trade* is compared to the movement of a ball that was previously hit by the recessional contagion across states (*had been badly hit*) but improved during the following year. Here, the narrative is engaged in the financial comparison at a global level, explicitly differentiating performance in the past and present, and forecasting prospects in the near future (*2009*; *pre-crisis levels in 2010*; *2011*). In addition, degree and evaluative adverbs such as *badly* and *markedly* are combined with verbs describing movements (*rebounded markedly*), to sustain the idea of a recovering economy via using words like *returned to its pre-crisis level* or *is expected to increase*. Figurative language comes to the fore again to compare commerce to a rubber band that is able not only to stretch, but also return to a small size (*rebounded*, *growing*, *contracting*). This elasticity helps to feed some expectations in Greek finance that is seen as being on the mend, and its present growth, previous contraction and likely future revival are compared.

Likeness vs unlikeness relations in both sub-corpora are essentially expressed by scalar or non-scalar term comparisons, as illustrated in examples (3) and (4).

(3) In the second half of 2015 yields resumed their decline as continued downside risks to the inflation outlook prompted further monetary policy accommodation by the ECB, including an extension of the Asset Purchase Programme. Overall, the average euro area ten-year yield over the year reached a historical low of 0.6%. This is notably lower than the averages recorded in previous years and is also significantly lower than

the average of 2.1% recorded in the United States. It was, however, higher than the 0.4% observed in Japan. (ECB 2015: 15)

(4) The banking landscape today is different from that prevailing at the start of the crisis. Excess capacity has largely been eliminated, fewer but stronger banks are in operation, and the first benefits from the exploitation of synergies are already visible. (BG 2013: 19)

Example (3) shows how scalar markers of inferiority or superiority (e.g., *lower than*, *higher than*) can be used to provide statistics on comparative economic data in a given period of time and in a supranational perspective. Example (4) instead shows how comparative governors such as the adjective *different* are adopted by the Bank of Greece to signal inequality among banks over time (*The banking landscape today is different from that prevailing at the start of the crisis*). In the description of the national financial scenario in 2013, the inflectional marker of superiority *stronger* unequivocally evaluates performance improvement and the advantages deriving from cooperation within the EU or, better, mergers at a national level (*fewer but stronger banks are in operation, and the first benefits from the exploitation of synergies are already visible*).

Similarly, scalar or non-scalar set comparisons are also exploited (examples 5 and 6):

(5) However, some economies that seem to have been equally vulnerable on the basis of the same metrics were generally less affected by global market volatility. This points to the relevance of other factors shaping investors' views on emerging economies, such as exposure to a slowdown in Chinese output, the capacity to benefit from the gradual recovery of economic activity in the euro area or the vigour with which governments have addressed existing imbalances, for example by implementing fiscal consolidation or structural reforms. (ECB 2013: 21)

(6) In the 34 OECD countries, it is estimated that GDP growth declined to 1.4%, from 1.8% in 2011. Nevertheless, this slowdown observed in advanced economies in 2012 (to 1.3%, from 1.6%) reflects markedly divergent developments across economic regions and countries. (BG 2012: 29)

Example (5) illustrates factors that may differentiate equality in the context of market volatility. The ECB presents economies having a similar degree of weakness through the adverb *equally* (in *equally vulnerable*) and the comparative governor *same*, which mark identical economic conditions. However, in spite of the economies' vulnerability, the intent is to present a lessened negative impact of volatility by the inflectional marker of inferiority *less affected.* The semantic shift from *illness* to *recovery*, used figuratively, provides grounds for comparison and involves evaluative stance as well: the personification of economies as achieved via the modifier *vulnerable* and their consequent exposure to potential external risk factors is juxtaposed to the *capacity to benefit* from the euro area's *gradual recovery*. Consequently, institutional *vigour* is necessary for strenuously reducing (and homogenizing) current asymmetries in the European implementation of growth-conducive reforms.

Example (6) presents verbs describing trends and orientation like *decline* associated with prepositions showing numerical comparative variation. The passage also offers the possibility to make some considerations about the use of the comparative governor *divergent* – which, somewhat unexpectedly, ranks extremely low in the two sub-corpora (see Table 1; Section 3). In fact, in the BG corpus this word occurs only as a hapax in the collocation *divergent developments*, while in the ECB corpus it registers a fairly higher though still modest occurrence (8 hits). This very low frequency could mark, on the supranational side, a slightly more decisive, though rare, authorial supervisory stance in assessing different types of conduct, and, on the national one, it may be seen as revealing a more blame-avoiding position, especially when institutional performance is gravely unfavourable.

Likeness and unlikeness mechanisms and relations are linguistically shaped and transferred to pinpoint institutional uniformity, dominance or inadequacy, thus engaging a clear-cut comparability,

(7) While the gains posted by equity indices in both the United States and the euro area were comparable in 2009 (approximately 23.5% in both cases), developments in the two areas were rather different in 2010. With a growth rate of almost 13%, the performance of the US index was significantly better than the broadly flat outcome for the euro area index. Notwithstanding the divergent developments recorded for 2010 as a whole, equity prices in both economic regions moved clearly sideways over the year, with gains and losses, relative to end-2009, reaching the order of 10%, so that there were significant swings in realised volatility. Reflecting these swings, as well as developments in investors' expectations about future tensions, implied equity price volatility also varied considerably throughout 2010, with a peak of close to 35% (annualised, on average, across the two economic areas) around the end of May. The volatility peak in 2010 was far lower than that between December 2008 and March 2009. (ECB 2010: 43)

or opting even for a far more overt stance, when comparative discourse advocates change:

(8) Today, the Greek economy is at a watershed. Progress with adjustment has been made, but is still too slow considering the debt dynamics. What is now needed is a strong re-launch of our efforts, to make up for the delays and give fresh impetus to reform policies. The government must actively demonstrate its firm commitment to moving forward, without ambivalence or hesitation, on the difficult path that it has mapped out. (BG 2010: 29)

In fact, in example (7) the ECB compares the economic performance of the euro-zone and the US, by deploying both term and set comparisons. The types of structures used qualify either institutional likeness or unlikeness and appear with specific nouns, modifiers and verbs embodying transformation (*divergent developments*, *varied considerably*). The comparison is made through a chronological circular sequence that runs through the passage and shifts from equality (*comparable*, *sideways*) to inequality (*rather different*, *divergent*, *significantly better*, *far lower*).

In (8), time reference (*today*, *now*) relates to financial adjustment, as indeed the use of the evaluative adjectives *strong* and *fresh* which show a comparative relation. In *What is needed is a strong re-launch ... to make up for the delays ... give fresh impetus to reform policies*, the adjective *strong* takes on positive connotations: it implies improvement, something taking place with a lot of energy and effort. Also, *fresh* indicates a new situation or difference and is semantically linked to *watershed*, metaphorically describing a point of change. The 'new' Greek economy springs from the *watershed* (which suggests expectations of growth) and its reforms are tracked on a path to recovery that may be long and winding, but take the State to the final destination that corresponds to a European course of finance.

The diffusion of knowledge associated with the framing of identity through comparative mechanisms has revealed other interesting findings in the reports. When a bank wants to promote the achievement of discursive reliability and represent a positive image of itself, it can use conscious strategies aimed at legitimizing institutional knowledge and justifying its conduct. National and supranational relations can compare identities differently, as shown in example (9).

(9) With the aim of reviving the European structured finance market, given its role in the provision of loans to the economy and, consequently, its potential importance for long-term economic growth, the ECB acts as a catalyst with regard to a number of initiatives related to this market segment. In particular, the ECB supports the development of high-quality products that could attract investors from the private sector with a medium to long-term investment horizon. (ECB 2013: 142)

The Bank is personified here as an entity able to revive the market and, therefore, to make it healthy and strong again, but it is also referred to metaphorically with *catalyst*: the parallel is set between a substance that helps a chemical reaction to occur faster and the ECB that is able to reanimate finance (*the ECB acts as a catalyst*). This image creates a powerful connection between knowledge, institutional self-representation and the Bank's role in the Eurosystem.

Conversely, a Member State like Greece can choose a softer strategy to disseminate financial knowledge in the difficult European financial context where it has had to perform:

(10) […] the government signaled that it was opting for a path of cooperation and mutual understanding over one of confrontation with our partners. […] This effective alignment on the common goal of keeping Greece in the euro area and the EU is unprecedented in Greece's recent political history, so often riven by acute confrontation and sharp division. If this broad alignment can be maintained despite the differences in approaches and views between the political parties, it could guarantee the political stability that Greece so drastically needs in order to break free of the crisis, return to normality and implement growth-conducive reforms. (BG 2015: 7)

In (10) a comparison between past and present divergences is covertly made for ideological reasons, and self-identity is not revealed by syntactic comparative structures. The lexis conveys an interest in institutional adjustments and a need for adherence to EU measures (*alignment*) on the one hand, but at the same time expresses dispute and disunion (*acute confrontation and sharp division*, *differences in approaches*). This choice involves a tacit comparison that in this case points to similarity, refers to avoidance of confrontation (*unprecedented*) and clearly implies the national awareness of self-institutional weakness for its past financial mistakes. Consequently, the bank's image appears rather frail: the bank is subservient to supranational decisions and somehow bound to a set course of finance for its own sake.

4. Final Remarks

The data analysed in this chapter shows that comparative mechanisms and relations represent distinctive linguistic features in the two different contexts in which the texts have been created and disseminated. As Huddleston (2002a: 526) points out, "the necessary finer gradations of meaning are expressed by means of words (and phrases) that alter, clarify, or adjust the meaning contributions" of linguistic structures. The quality and quantity of knowledge that emerge from the analysis of the financial reports reflect the present state of interconnectedness of the member countries of the euro-zone. Obviously, the discourse of financial performances affects institutional credibility and contributes to shape strong or weak bank images. However, some distinctions can be drawn.

First, the analysis revealed extensive use of explicit comparative structures in the ECB corpus, particularly when these co-occur with narrative and evaluative patterns intended to legitimize an institution that enjoys a high degree of credibility. Also present in the BG corpus, this pattern serves the need to lessen existing blameworthy institutional conduct and feed expectations of recovery in the near financial future. In fact, divergent institutional behaviours are linguistically conveyed by a different use of modifiers, governors and verbs marking comparison, as well as by the way in which discursive strategies reflect on controversial or endangered financial images. The ECB corpus often displays verbal forms that may hold a positive value to describe negative performances. The Bank of Greece instead prefers markers of superiority to indicate any improvement in its unfavourable performance. Second, in the attempt to reconcile its differing performance with the Eurosystem's policy stance, the Bank of Greece shows a prominent use of markers of equality to signal alignment, as well as frequently resorting to comparative governors that shape economic inequality that had to be made homogeneous. In the same way, in the ECB corpus likeness tends to mark self-awareness and commitment in guiding Member States to uniformity, while unlikeness discursively contributes to signalling institutional dominance. Third, the comparison between the supranational stronger position and national inadequacy for the Bank of Greece is often supported by effective metaphors, especially when advocating adjustment and subordination, as opposed to financial disagreement and mismanagement.

All these aspects related to different types of comparison in the reports obviously meet the national discursive intent of reducing any possible contrast about the negative effects deriving from financial competence or misconduct; they also turn out to become indispensable when asserting the supervisory role of the supranational institution that is empowered to act and compare performances. But is this the type of language banks should use to convey what citizens want and need to know?

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CHAPTER SIX

DEVELOPING CORPORATE IDENTITY VIA COMPANIES' WEBSITES

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Abstract: Nowadays, companies attach great importance to their corporate identity, which is crucial for establishing and maintaining positive reputation (Schmeltz 2014). Corporate identity needs to be substantiated by effective communicative strategies, such as those exemplified by companies' websites. These are repositories of texts serving the purposes of institutional advertising, and they are potentially addressed to anyone all over the world (Breeze 2013). In order to appropriately cater for their multilingual stakeholders, Italian companies usually publish an English version of their website The question then arises as to how internationally operating companies adopt and adapt English as the internationally dominant language of communication (Pennycook 2017 [1994]) to present themselves to the world at large. To answer this question, the present contribution investigates the interplay of factual information and evaluative vocabulary characterising the websites of five Italian companies that operate in the renewable energy sector. Frequency wordlists and concordance lines are therefore examined to pinpoint rhetorical strategies that have a role in constructing companies' positive identity. Our findings indicate that the companies accomplish their communicative agenda not only by relying on persuasive language, but also by taking stock of the technical terminology of their industry sector. In this way, they showcase their business competence and demonstrate their communicative skills in appropriating English for the aims of international corporate communication.

1. Introduction

The status and role of the English language and of the Web as a medium are unrivalled in today's business world, despite the far-reaching changes, which have characterised globalisation in recent years. On the one side, although the English hegemony is now challenged by the languages of emerging economic powers like Chinese, English still represents the dominant language encapsulating power relationships across countries and social classes (Pennycook 2017 [1994]). On the other side, the Web has been affording organisations ways to address their international audiences without any time or place constraints for more than two decades, and it still has enormous potential. Nonetheless, events such as the Volkswagen emission scandal in 2015 and the Facebook data crisis in March 2018 have brought to the fore the importance for for-profit organisations to get their message across in ways which are "transparent and truthful", bearing in mind that "communication is the key for the success of any objective or business strategy" (Gomez 2018: 197).

In sum, English and the Web have contributed to expanding the companies' participation framework, to the extent that everyone is a potential stakeholder. In this scenario, great importance is attached to corporate identity, which is crucial for establishing and maintaining organisations' positive reputation:

> [companies] no longer only have to heed the concerns of their core stakeholders; they also need to contemplate the many different roles that they perform in society and, consequently, which of these roles they want to give priority when communicating externally. (Schmeltz 2014: 235)

Corporate identity is "the articulation of what an organisation is, what it stands for, what it does and how it goes about its business" (Topalian 2003: 1119), and it "consists of the collection of attributes that members use to describe an organization" (Van Riel, Fombrun 2007: 67). Corporate identity needs to be substantiated by effective communicative strategies, such as those exemplified by companies' websites, which function as large repositories of texts potentially addressed to anyone all over the world and serving the purposes of institutional advertising (Breeze 2013). In order to appropriately cater for their multilingual stakeholders, companies usually publish a version in English of their website. This raises an important question: how do internationally operating for-profit organisations adopt and adapt English to present themselves to the world at large?

To answer this question, we shall investigate the lexico-grammatical patterns that characterize the English websites of five Italian companies active in the renewable energy sector by focusing on instances of evaluative language and terminology used with a self-promotional function.

This chapter is organised as follows. Firstly, International Business Communication (IBC) will provide the background to this work in Section 2. As a second step, Section 3 will review selected genre-based studies of companies' websites. Next, considering the promotional nature of websites, a brief outline of the theoretical constructs of persuasion and evaluation will be given, followed by discussion of data and methods. In Section 4 the preliminary findings of a pilot study will be described and discussed. We then conclude by making some remarks on the use of English for the purposes of international web-mediated corporate communication.

2. International Business Communication (IBC)

The disciplinary framework of *International Business Communication* (IBC) has been posited by Louhiala-Salminen and Kankaanranta (2011) to investigate professional communication relying on the premise that today's global business context is multicultural, multilingual and multimodal (Louhiala-Salminen 2012): *multicultural*, because cross-border mergers, acquisitions, partnerships, and networks among companies have connected different cultural backgrounds; *multilingual*, because professionals with varying first languages meet to do business; *multimodal*, in that communication unfolds by means of several advanced technologies.

Global professional communication can be investigated at a *micro*- and at a *macro*-level. The former includes interactions among individual employees, both written and spoken, within and outside a company. The latter encompasses the formal communication activities which aim at shaping the positive reputation of a company. Thus, IBC accounts for both interpersonal exchanges among professionals during the daily routine in their workplace, and the formal, official communication activities addressed to stakeholders. These usually fall under the rubric of *corporate communication*, traditionally understood as "the process through which stakeholders perceive the company's identity and image and reputation are formed" (Balmer, Gray 1999: 171). Corporate communication seeks to influence stakeholders' opinions "through a positive corporate branding and an effective and regular diffusion of information in order to build a transparent relationship" (Poppi 2012: 134).

The micro- and macro-level of global professional communication jointly build the communicative background of any internationally operating company (Louhiala-Salminen, Kankaanranta 2011). Language issues involve both levels:

> Multinational companies need to address the question of 'corporate language', while individual employees may use a variety of languages on a daily basis to get their work done. (Louhiala-Salminen, Kankaanranta 2011: 245)

The multifaceted nature of the global business context and the diverse activities within global professional communication are closely related to using English as the shared language in business communication and as the privileged code for international web-mediated corporate communication.

3. Companies' Websites

One of the first classifications of companies' websites was devised by Kotler (1998), who distinguished between *corporate* and *marketing websites*. The former aim at promoting and giving information about a company; the latter are designed to let organisations "interact with the consumers for the purpose of moving them closer to purchase or other marketing outcome" (Kotler 1998: 971). While banking on this categorisation for her discursive investigation of companies' websites, Ellerup Nielsen (2002) points out that, following the continuous advances in the domain of information technology, these two typologies can merge into one artefact having the formal features and communicative functions of both. This move encourages us to factor in genre-based studies.[1] In fact, the concept of genre is instrumental to

> [gaining] a better understanding not only of the linguistic characteristics of texts, but also of their macro-structure, which appears to be organised according to genre expectations and conventions rooted in the socio-cultural context. (Gotti, Berkenkotter, Bhatia 2012: 10)

Salvi and Turnbull (2007) also adopt a genre-based approach to explore how companies' web-mediated communication draws on authoritative language, whose use is also triggered by fierce competition online.

> [A] corporate website needs to create a profile of the company which distinguishes it from its competitors. The brand image, the corporate identity and the charismatic presence of the founder of the company all

[1] Indeed, several genre-based studies of companies' websites have been carried out over the last two decades. See, among others, Askehave, Ellerup Nielsen (2005), Garzone (2007), Turnbull (2011; 2013), Catenaccio (2012).

> contribute to this profile and influence linguistic choices and the organization of discourse. (Salvi, Turnbull 2007: 244)

The authors draw on Hyland's (2001) definition of *authority*, which is a function of the companies' credibility: authority is asserted by claiming competence in a given professional domain and by projecting an image of reliability. On websites, this is verbalised in the organisation's self-presentation and in the description of its products and services.

In their final remarks, the authors claim that in companies' websites language choices focus on three areas:

> innovation (portrayal of the company as an original and innovative business enterprise; in this field language includes "technicality"); management and leadership (corporate culture as a model for the discourse community); environment (exploitation of the medium and its sociolinguistic elements to establish a new engaging relationship with readers). (Salvi, Turnbull 2007: 262)

The intercultural aspects of Italian companies' English websites that targeted international audiences is emphasised, among others, by Salvi, Turnbull and Pontesilli (2007), Crawford Camiciottoli (2013), Facchinetti (2013), Gatti (2013), Poppi (2013) and Salvi (2013). In particular, Salvi (2013) stresses the role of the Web in intercultural communication and, relying on Soja's (2001) three-dimensional concept of space, further contends that new technologies and media represent a "third space" where cultural norms and values are disseminated,

> so that the social construction of reality, the shaping of public consciousness and the development of professional skills occur, to a great extent through the media. (Salvi 2013: 17)

Considering the context of communication, and banking on the assumption that companies' website aim at persuading potential customers and earn their trust (see also Salvi, Turnbull, Pontesilli 2007), *solidarity* is created by constructing the company's identity in terms of its objectives, which correspond to its values and believes.

Another crucial factor for the effectiveness of web-mediated corporate communication is *corporate culture*. A company's success, Salvi's (2013) argument goes on, depends on the effectiveness of the language employed, and on its ability to negotiate its culture while engaging its audiences in a dialogue. This suggests that meaning online is a two-way process in which both organisation and stakeholders participate actively.

3.1 Persuasion and Evaluation

The studies surveyed above stress the promotional nature of companies' websites. Therefore, an appropriate theoretical framework for the present analysis needs to be grounded on *persuasion* – defined here as "linguistic behaviour that attempts to either *change* the thinking or behaviour of an audience, or to *strengthen* its beliefs, should the audience already agree" (Halmari, Virtanen 2005: 4, authors' emphasis). The authors highlight the dialogic nature of persuasion, in the sense that audiences also participate in the process. This is influenced by "the situational and socio-cultural context in which it takes place, and at the same time it helps construct that very context" (Halmari, Virtanen 2005: 3-4).

In sum, both communicative context and target audiences have to be considered when studying persuasion, but the latter might prove difficult to investigate, since the reactions of the audience are often unknown to the researcher. Jucker (1997) tries to overcome this limitation by accounting for the speaker's intentions as reflected in his/her linguistic choices.

Following from these premises, *evaluative language* is instrumental to shedding light on the message-sender's communicative objectives: evaluation is an "interpersonal component of language" (Salvi, Bamford 2007: 5) which overlaps with persuasion, or as Partington, Duguid and Taylor put it, evaluation is "the engine of persuasion" (2013: 46). Generally speaking,

> evaluation is the broad cover term for the expression of the speaker or writer's attitude or stance towards, viewpoint on, or feelings about the entities or propositions that he or she is talking about. (Thompson, Hunston 2000: 5)

Evaluation can be identified in terms of lexical, grammar and textual features (Thompson, Hunston 2000) and is most often expressed along the *good-bad* parameter (Hunston 2004). Similarly to persuasion, which is frequently implicit (Halmari 2005; Halmari, Virtanen, eds. 2005; Östman, 2005), evaluation can be signalled in both overt and covert ways (Partington, Duguid, Taylor eds. 2013). Indeed, in business communication what is offered as factual information can be "used to convince the listener to invest in the company or buy its products" (Bamford 2007: 139). Along these lines, numerical data can be disclosed to back the writer's message (Halmari 2005; Virtanen 2005; Bamford 2007). Finally, evaluation might fulfil a cohesive function and thus spread over and permeate a whole text. As the authors put it, "evaluative meaning is achieved by the cumulative interplay of items" (Partington, Duguid, Taylor 2013: 58).

3.2 Data and Methods

The present research is a pilot study for which a small-scale corpus was used. The data was manually collected between November and December 2014 by downloading all the texts from the English websites of five Italian companies or Italian subsidiaries of international companies (e.g., though active for more than 35 years, *Turboden srl* is now a subsidiary of Mitsubishi Heavy Industries). The companies chosen for the analysis were sampled as follows. Firstly, organisations dealing with renewable energy sources were singled out, given the high stakes of this industry sector today. Secondly, Italian companies were selected, in the sense that they are based in Italy, the first language used for work is Italian, and English, or the first second language that Italians learn at school, is used for communication in most international encounters (Cramer 2007). Additionally, each of the five companies deals with one of the renewable energy sources which most contributed to the total amount of electricity generated in Europe between 1990 and 2010, namely wind, hydropower, photovoltaics, biomass and geothermal energy (Šturk 2012). Table 1 provides an overview of the small-scale corpus.

Tab. 1: Data

Company name	Energy source	tokens	types
Bonfiglioli Riduttori SpA https://www.bonfiglioli.co.uk/en-gb/	Wind	89,014	6,131
IREM SpA iremspa.it	Hydropower	8,796	1,638
Micron – Cappello Alluminio srl http://www.micronsun.it/lang=EN#.WymBIVUzaM8	Photovoltaics	2,091	731
Palazzetti SpA www.palazzettigroup.com/en	Biomass	91,529	6,945
Turboden srl https://www.turboden.com/	Geothermal	22,902	3,401
Total		214,332	11,769

The data was analysed by applying a mixed-method approach. Quantitative corpus analysis was conducted by processing the websites in *AntConc* 3.5.7 (Anthony 2018), and a word list has thus been obtained. As a second step, we ran concordance lines for the most frequent nouns in the word list. This enabled us to carry out a qualitative analysis aiming at disclosing possible instances of positively connoted evaluative language in the co-text of the most frequently occurring nouns.

4. Data Analysis

Table 2 gives the top-ranking nouns in the word list. These represent the starting point in the analysis. We proceed on the assumption that they exemplify information items which are foregrounded in the small-scale corpus.

Tab. 2: Top-ranking nouns

Rank	Frequency	Word
10	1652	Bonfiglioli
13	1412	power
24	748	energy
36	606	system
37	569	heat

The most frequent noun is *Bonfiglioli*, or the name of one of the companies sampled. This is a form of self-reference which indexes the message-sender's authority. Obviously, this word is to be retrieved in the sub-corpus of Bonfiglioli Riduttori SpA only. By contrast, the plot tool integrated in the AntConc software indicates that *heat*[2] does not occur in the website of Micron – Cappello Alluminio srl. Hence, *Bonfiglioli* and *heat* have been discarded from the analysis and attention has been devoted instead to the nouns *power*, *energy* and *system*, which are attested in all the websites sampled. The distribution (RF: raw frequency; NF: normalized frequency) of the three nouns across the small-scale corpus is illustrated in Table 3. Information about their raw frequency and frequency normalised per 10,000 words is also provided. The implied function of these nouns is to verbalise the companies' professionalism by highlighting their core business activities. This is testified by the analysis of the co-text surrounding these words across subsequent concordance lines, which present patterns characterised by positive evaluative language.

[2] In our corpus, *heat* is used primarily as a noun (569 hits) and only rarely as a verb (40 hits).

Tab. 3: *Power*, *energy*, *system*: Raw freq. and freq. per 10,000 words

	Bonfiglioli Riduttori SpA		IREM SpA		Micron – Cappello Alluminio SRL		Palazzetti Lelio SpA		Turboden SRL	
	RF	NF	RF	NF	RF	NF	RF	NF	RF	NF
power	403	45	90	102	7	33	489	53	423	185
energy	312	35	38	43	19	91	218	24	161	70
system	221	25	32	36	10	48	316	35	27	12

4.1 *Power*

The high incidence of the noun *power* is connected with the industry sector in which the five companies operate.[3] In (1), *power* is the modifier in a compound noun denoting the particular business area in which the company trades (*power transmission industry*).

(1) Bonfiglioli Riduttori's *constant and targeted investments in R&D*, performed at *centres of excellence* around the world, have established the group as a *global leader* in the ***power*** *transmission industry* for *product quality, innovation and performance*. (Bonfiglioli Riduttori SpA)

As can be seen, the sender's activities (*investments in R&D*) are thematised and positively evaluated by means of the adjectives *constant and targeted*. Further instances of positive evaluation are *centres of excellence*, *global leader*, *product quality, innovation and performance*. These linguistic strategies fulfil the aims of institutional advertising, rather than those of product promotion, by presenting the firm as an innovative and qualified partner in front of its audiences. This is in line with the stance of authority, which the company maintains, as signalled by the frequent occurrence of its name in the corpus.

In contrast to (1), in (2) the renewable energy source employed by the firm is topicalised by positioning the noun *water* at the beginning of the main clause.

[3] *Power* is understood here as 'A supply of energy, *esp*. a public supply of electricity (often viewed as a commodity); (also) electricity as used for purposes other than lighting; heat, motion, etc., obtained using an electricity supply' (OED: POWER, *n.*).

(2) *Water* is the *ideal renewable* ***power*** *source*, used by man since the beginning of time. (IREM srl)

Power is again used in a compound, but is now premodified by the adjectives *ideal* and *renewable*. *Renewable* is a descriptive adjective that denotes the source of energy; *ideal* is an instance of overt positive evaluation. The adjective *renewable* could also be regarded as an example of covert positive evaluation, since the production of energy from renewable resources is regarded as something to be encouraged.

Nevertheless, there are other ways to promote the company. For instance, in (3) the persuasive function is conveyed via recourse to factual terminology in the noun phrase *micro hydroelectric power plants*, which designates the company's products.

(3) *In the '50s* the production of *micro hydroelectric* **power** *plants* started. (IREM srl)

Furthermore, the prepositional phrase *in the '50s* in thematic position points to the company's long experience and expertise. Overall, the underlying message in (3) is intended for an expert audience, in that the use of terminology signals shared knowledge between the company and its stakeholders.

4.2 *Energy*

The noun *energy* is used to position the organisations in relation to their industry sector in ways comparable to *power*. Consider, in this respect, example (4).

(4) The *reliability* and *professionalism* with which the Palazzetti Group pursues its mission is aimed at creating *products and systems capable of guaranteeing very high performances* with a *minimum impact on the environment* and a *favourable* ***energy*** *consumption-cost ratio*. (Palazzetti Lelio SpA)

As might be expected, the node word *energy* occurs in patterns, which can be considered instances of the technical language of the sector. This is the case of the noun phrase *energy consumption-cost ratio*, which in turn is pre-modified by the positive adjective *favourable*. Further lexical choices with a positive connotation are the nouns *reliability* and *professionalism*, referred to the company, and the adjective phrase *capable of guaranteeing very high performances with a minimum impact on the environment*, which post-modifies the coordinated nouns *products and systems*. Overall, these strategies are primarily meant to promote the products, but their secondary aim is to develop the firm's favourable identity in its stakeholders' eyes. Additionally, third-person self-reference and reliance on nominal style (*reliability and professionalism*, *minimum impact on the environment*) contribute to the overall objectivity and formality of the message, and reinforce the organisation's stance of authority.

In (5), *energy* is found in the noun phrase *low energy consumption*, where the complex noun is modified by the adjective *low*.

(5) The *mission* that inspires *our* work *is the research into and the application of solutions* focusing on *low* ***energy*** *consumption*. (Micron – Cappello Alluminio srl)

Again, this is an example of terminology used to designate the company's products. It can also be regarded as an instance of covert positive evaluation, as it signals their efficiency. Like (4), (5) is characterised by nominalisation, as attested by the expression *the research into and the application of solutions* in predicative position, further postmodified by *focusing on low energy consumption*: new information appears at the focus position at the end of the sentence, in line with the End-Focus Principle (Quirk et al. 1985). Overall, the sender focuses on the company's mission, and reference to sender is via recourse to the exclusive (i.e., receiver-excluding) first-person adjective *our* in *our work*. In this way, the company is personified, and its identity rooted in its business objectives, while a dialogic relationship is created based on solidarity with its stakeholders.

In line with the examples discussed so far, in (6) *energy* is used in *energy recovery*, a compound term. This, together with *efficiency*, can be regarded as a positively connoted rhetorical choice, as they both designate the sector in which the company is involved.

(6) Today *the industrial and manufacturing world* is being forced to [...] develop solutions that combine the concepts of *efficiency* and ***energy*** *recovery*. (Bonfiglioli Riduttori SpA)

Importantly, (6) focuses neither on the company nor on its products. What seems to be promoted is the production of renewable energy to meet the needs of *the industrial and manufacturing world*. However, it could be argued that by promoting the production of renewable energy and the industry sector in which the company trades, the company tries to implicitly persuade its audience of its expertise and accountability.

4.3 *System*

Close examination of the concordance lines reveals that *system* is employed in direct connection with the companies' products and technologies.

(7) It is *the first* **system** *on the market* to *easily and quickly* create *your* fireplace cladding, *all by yourself*. (Palazzetti Lelio SpA)

System is positively evaluated by the adjective *first* and the prepositional phrase *on the market*. The properties of the product are boosted by the adverbs *easily* and *quickly*, and the company reaches out to its customers by referring to them by means of the possessive *your* and of the pronoun *yourself*. The clause in (7) is a clear example of product advertising. However, products and technologies are often described by tapping on the terminology of the sector, with a view to persuading stakeholders of the company's competence, as in the example below.

Of course, communication of domain-specific knowledge might be at stake, as in (8), which reminds us of a definition.

(8) […] the *ORC* **system** *vaporizes* an *organic fluid*, characterized by a *molecular mass* higher than water, which leads to a *slower rotation* of the turbine and *lower pressure and erosion* of the metallic parts and blades. (Turboden Srl)

As can be seen, information about the *Organic Rankine Cycle's principle*, here referred to with the acronym *ORC*, is communicated via an expository text (Werlich 1983 [1976]): ORC is a type of technology developed by the company, and in the example the node word is part of a compound noun including the acronym (*ORC system*). Additionally, the example presents and relates to the ORC system technical terms such as the nouns and noun phrases *organic fluid*, *molecular mass*, *rotation*, *pressure*, *erosion*, and the verb *vaporizes*, another technical term.

Of course, recourse to evaluation is still possible, as shown in example (9), which starts as a definition (*The transmission of the motion between wheel and generator is entrusted to a cogged driving belt*).

(9) The *transmission of the motion* between *wheel* and *generator* is entrusted to a *cogged driving belt*, which ensures the *necessary flexibility* of the ***system*** and optimizes the transmission itself. (IREM srl)

Here, persuasion is supported by both positive evaluation and terminology to provide factual information on how the system functions.

Transmission of the motion, *wheel*, *generator* and *cogged driving belt* are technical terms describing the *system* under consideration. Instances of positively connoted language are represented by the past participle *entrusted*, by the verbs *ensures* and *optimizes*, and by the noun phrase *necessary flexibility*. Additionally, using *The transmission* in clause-initial and clause-final position, allows the sender to focus on the *cogged driving belt* and the advantages it can generate.

4.4 Discussion

The language choices made by the companies in the small-scale corpus under scrutiny confirm that web-mediated corporate communication is grounded on the three semantic fields pinpointed by Salvi and Turnbull (2007): innovation, management and leadership, and environment.

As for *innovation*, the analysis has first of all revealed the high incidence of nouns which belong to the same field of meaning, as it could have been expected. Nonetheless, these terms are crucial in positioning the organisations and their products in relation to the industry sector in which they operate (1: *global leader in the power transmission industry*; 6: *the industrial and manufacturing world is being forced to [...] develop solutions that combine the concepts of efficiency and energy recovery*). Additionally, the investigation into the concordance lines in which the nouns *power*, *energy* and *system* occur has shown that the organisations' expertise and accountability are expressed by evaluation markers and other positively connoted lexical choices (1: *product quality, innovation and performance*; 4: *reliability and professionalism*).

These rhetorical strategies refer to the organisations and their performance and *leadership* in renewables (1: *global leader*; 3: *In the '50s the production of micro hydroelectric power plants started*), but also underscore the relevance of the renewable energy sector in general (2: *Water is the ideal renewable power source*). Thus, the companies implicitly promote themselves by indicating the importance of investing in renewable sources. This message is addressed to the companies' stakeholders and the general public as well, and it is particularly meaningful given the high stakes which characterise the production of clean energy in today's globalised world, where in practice everyone is a stakeholder. These strategies index the *management and leadership* dimensions which the companies claim for themselves in their discourse community.

As regards *environment*, the organisations engage their stakeholders on several levels. The positively connoted rhetorical patterns which have been pinned down cater for the companies' institutional advertising and product promotion, and they can be categorised as overt positive evaluation. The use of terminology is also fundamental to covertly persuade the audience of the companies' professionalism. Indeed, our search words frequently occur in compound nouns and noun phrases which give factual information about the companies' products and technologies (3: *micro hydroelectric power plants*; 4: *energy consumption-cost ratio*; 7: *the ORC system*). These are terms, and their function is to present the organisations as competent business partners. By doing so, the companies address an audience of peers, although in some cases factual information is disseminated so as to expand the message-receivers' knowledge about the technologies implemented by the organisations (8: *the ORC system vaporizes an organic fluid*; 9: *The transmission of the motion between wheel and generator is entrusted to a cogged driving belt*).

Importantly, the terms under scrutiny also comprise nominalisations (5: *low energy consumption*; 9: *transmission*), but nominalisations are also used when terminology is not an issue (e.g., *application of solutions* in 5: *The mission that inspires our work is the research into and the application of solutions*). Overall, the use of the nominal style seems to reinforce the companies' stance of authority, especially when it combines with the third-person self-reference, as in (4). In contrast, the use of the receiver-excluding pronoun *we* in (5) and of second-person reference in (7) makes the message more direct – which is in line with the type of interactivity that characterizes the medium and with the dialogic nature of companies' promotional communication: this strategy aims at establishing rapport with the companies' audiences and invites them to take action.

5. Conclusions

This study concentrated on factual and evaluative language in the English websites of five Italian companies working in the renewable energy sector. We hope to have minimally demonstrated that they constitute meaningful rhetorical choices in terms of institutional advertising and product promotion. In fact, an investigation of linguistic patterns is instrumental to assessing how efficiently companies spread information about their performance and promote themselves and their products in front of their stakeholders. To this effect, the analysis of evaluative language has produced findings which show how skilfully companies appropriate English to pursue their communicative agenda: corporate communication via global websites appears to be located in a "third space" (Poppi 2012: 215), where members of the same professional community with different lingua-cultures meet online to do business.

In the end, web-mediated corporate communication was shown to partake in the macro-level of IBC, as websites aim at shaping the opinions of the companies' many international stakeholders in a positive way. The English employed on these websites is therefore context-dependent and goal-oriented: the corporate identity which the organisations present is often verbalised using positively connoted evaluative language, but it needs to be supported also by the terminology specific to the renewable energy industry. Hence, companies claim their authority in the sector in which they operate, while showcasing their reliability.

In sum, the use of positive evaluation markers and of terminology go hand in hand in companies' global websites, as they are both fundamental to constructing the companies' positive identity and consolidating their reputation in front of their international stakeholders.

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SECTION III

COMMUNICATING SPECIALIZED KNOWLEDGE ABOUT CULTURAL HERITAGE AND THE ARTS

CHAPTER SEVEN

MUSEUMS AND ARCHITECTURAL IDENTITY: AN EXPLORATORY STUDY OF MUSEUM WEB TEXTS

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Abstract: Architecture is a relevant component of the marketing strategies applied to evaluate the brand appeal of a museum's collections and exhibitions (Caldwell 2000). One case in point here is Frank Gehry's *Guggenheim Museum* in Bilbao, where architectural design has been pushed to the limit in order to create a major artistic attraction. At the same, time, multimodal tools like 'museum web texts' are key to composing, developing and communicating a museum's public image (Pierroux, Skjulstad 2011). In the light of this, it is the purpose of this paper to investigate the communication and representation strategies that professionals adopt in order to establish the architectural identity of a museum. More specifically, we put the main focus on selected pages of two multi-site museum networks (Pencarelli, Splendiani 2015) – the *Tate* family of museums and the *Guggenheim* constellation – so as to identify the distinctive textual features and discursive practices through which museums establish their architectural identity. Data analysis shows that architectural discourse can significantly contribute to branding the public image of the museums under investigation, asserting values of innovation, transformation, or continuity with the past.

1. Introduction

Museums are widely recognised as both part of our cultural heritage and a primary tourist attraction. As such, they have experienced sweeping changes over the past few decades, primarily driven by globalisation, the advent of new technologies, and budget cuts. The outcome of these changes has been a transition towards a more market-oriented approach

(Kotler, Kotler, Kotler 2008; McLean 2012): museums have been literally encouraged "to market themselves" (McLean 2012: 37) and to reinvent their public image. Sometimes change has had an impact on the museum's exterior architecture: some institutions have opted for radical innovation, while others have struggled to maintain their original style, or have tried to find an acceptable compromise between innovation and conservation.

Texts in museum (Ravelli 2006) – i.e., the texts produced by museum professionals for the consumption of visitors – can be seen as a key factor in interpreting some of the changes in museum settings (Lazzeretti 2014, 2016). In this regard, it has been argued that "the social reality of museums is […] 'displayed' and 'exhibited' in the museum's marketing material" (Sabatini 2015: 107). Websites, in particular, seem to offer interesting perspectives for an analysis of how museums see themselves and how they would like to be seen by their public: as multimodal tools, they combine different media and architectural narratives to communicate and (re-)present a museum's public image on the World Wide Web (Pierroux, Skjulstad 2011).

Websites represent new forms of knowledge creation/sharing for museums, which slowly ventured into online development: first examples of museum websites, dating back to the mid-to-late 1990s (Rizzo, Mignosa, eds. 2013), simply duplicated museum brochures, providing information about exhibitions, events, opening times, etc. Development was limited by cost, poor visual quality and lack of technical sophistication (see, e.g., Paolini et al. 2000).

Since the turn of the millennium the use of new Web technologies has grown rapidly, giving rise to the terms *museum without walls*, *postmuseum* and *virtual museum* (Hooper-Greenhill 2000: 152-153). Today museum websites are strategic tools within the *global brandscape* (Klingmann 2007) of marketing measures applied to evaluate the brand appeal of a museum and mediate "the branding of a public image that is directed toward trends in global tourism" (Pierroux, Skyulstad 2011: 213).

In this article, the websites of two well-known arts *museum networks* (Pencarelli, Splendiani 2015) come under scrutiny: the *Tate* family of galleries in England, which includes the *Tate Britain*, the *Tate Modern*, the *Tate Liverpool*, and the *Tate St. Ives*; and the *Guggenheim* constellation of museums around the world, which includes the flagship *Solomon R. Guggenheim Museum* on 5th Avenue in New York, the *Peggy Guggenheim Collection* in Venice, Italy, the *Guggenheim Bilbao* in Spain and the *Guggenheim Abu-Dhabi*, in the United Arab Emirates.

A selection of web texts (i.e., subdirectories and webpages) is investigated by means of qualitative analysis with the aim to identify the distinctive textual features through which museums establish their architectural identity. Though we also touch upon images, the focus is on text. Drawing on Hunston and Thompson's (eds. 2000) notion of *evaluation* and on Martin and White's (2005) appraisal framework and, more specifically, on their multifaced conceptualization of *attitude*, the analysis focuses on the use of evaluative language, narrative strategies (Toolan 1988) and other lexical strategies serving to highlight, present and communicate the architectural identity of museums.

The Tate family of galleries and the Guggenheim constellation represent typical examples of multi-site museums or museum networks (Pencarelli, Splendiani 2015). Decker (2008) suggests that, due to its global organisation, "the Guggenheim constellation performs a new social function", not simply "embodying, preserving and exhibiting inherent beauty", but "generating economic development in a new cross-sector cultural economy" (2008: 3).

Similarly, the Tate family has been defined as "a corporate brand that acts like an umbrella communicating a core set of values to consumers at each of the four museums – Tate Britain, Tate Modern, Tate Liverpool and Tate St. Ives". The result is powerful as it creates "a synergistic effect" (Young 2007: 158).

The term 'network' generally identifies "a set of cooperative relations connecting autonomous entities" (Powell, Smith-Doerr 1994). By creating cooperative and not antagonistic relations, museum networking brings advantages for institutions, ranging from mutual exchanges of exhibitions and art works to the adoption of shared policies and strategies. Consequently, the collaboration realised through museum networking is considered a best practice for both organisations and consumers (Frey 1998; Zorzi 2003; Ferraro 2011).

According to Pencarelli and Splendiani (2011: 228), "museum networks represent a potentially effective organisational form for enhancing cultural resources". However, as in many cases of business aggregation, museum networks "can survive and develop when managed by a governing body capable of guiding the network for the purposes of development and long-term success" (ibid.: 228). It may be added that the success of a museum network depends on the strength and coherence of its public image, also defined by location and architecture (Caldwell 2000).

Given the opportunities but also the challenges posed by museum networks, it can be worth investigating how organisations deal with a multiple identity and how they communicate to the public without losing their inner cohesion. To that end, the analysis of museum web texts can offer interesting insight into the linguistic strategies adopted by professionals to reinforce the museum's identity.

2. Materials and Method

How is the issue of architectural identity tackled by museum web texts? And what lexical strategies are exploited by web writers to enhance a particular museum's architectural identity? To answer these questions, the writing protocols of two multi-site museum websites were investigated (www.tate.org.uk and www.guggenheim.org), and a series of sample texts, last accessed in January 2018, was collected: of the various contents involved in the museum websites – ranging from exhibition presentations to education programmes, from FAQs to annual reports – the pages most likely to illustrate the architectural identity of the institutions were selected. These comprise museum building descriptions, blog posts and historical accounts. A complete list of the webpages is provided in the table below (Table 1).

Tab. 1: Webpages collected for the analysis

www.guggenheim.org
1. http://www.guggenheim-bilbao.es/en/the-building/ (G-a) 2. https://www.guggenheim.org/about-us (Bilbao) (G-b) 3. http://www.guggenheim.org/new-york/about/frank-lloyd-wright-building (G-c) 4. https://www.guggenheim.org/arts-curriculum/resource-unit/the-architecture-of-the-solomon-r-guggenheim-museum (G-d) 5. https://www.guggenheim.org/about-us (New York) (G-e) 6. http://www.guggenheim-venice.it/inglese/museum/palazzo.html (G-f) 7. https://www.guggenheim.org/about-us (Venice) (G-g) 8. https://www.guggenheim.org/about-us (Abu Dhabi) (G-h)
www.tate.org.uk
1. http://www.tate.org.uk/about-us/history-tate/history-tate-britain (T-a) 2. http://www.tate.org.uk/context-comment/blogs/tate-britain-there-was-dreaded-millbank-prison (T-b) 3. http://www.tate.org.uk/about-us/history-tate/history-tate-modern (T-c) 4. http://www.tate.org.uk/about-us/history-tate/history-tate-liverpool (T-d) 5. http://www.tate.org.uk/about-us/history-tate/history-tate-st-ives (T-e) 6. http://www.tate.org.uk/context-comment/articles/behind-the-art-tate-modern (T-f)

Adopting a contrastive/comparative approach, texts were investigated with the aim to identify the distinctive textual features through which museums establish their architectural identity. The term *identity* is here used to refer to the *public image* of the museum, an analytical category devised by Ritchie (1994), which accounts for the museum's exterior architecture and placement in a prominent site in an urban setting. The attention was placed in particular on *evaluation* and *description*, both key concepts in the language of museums (Lazzeretti 2016). As proposed by Bondi (2013), description is "an attention-managing device that the writer uses to direct the reader's attention" (Bondi 2013: 128), while, in Hunston and Thompson's (2000) words, evaluation is "the expression of the speaker or writer's attitude or stance towards, viewpoint on, or feelings about the entities or propositions that he or she is talking about" (Hunston, Thompson 2000: 5).

The narrative potential of web texts was explored bearing in mind the analysis carried out by Toolan (1988) on the basic components of the *narrative* – *events*, *setting* and *character(s)* – and looking for markers of *affect* that were felt to play a role in highlighting the *story potential*. The analysis focused therefore also on items that could be attributed to the semantic dimension "concerned with registering positive and negative feelings" identified by Martin and White (2005: 42) in their framework for mapping *attitude* in texts.

A manual observation of texts enabled the identification of three main semantic categories represented in the web texts: the topic of *creation*, the topic of *transformation*, and the topic of *continuity* with the present. Each of these categories will now be dealt with in turn, looking at how they are developed in related web texts.

3. Analysis

3.1 Creation and Innovation: *Bilbao Guggenheim*, *Abu-Dhabi Guggenheim*

A first group of museum web texts is characterised by an emphasis on the idea of *creation*. The focus is on the construction of something new, which did not exist before, and is therefore presented in terms of great originality and *innovation*. Designers play a very important role in this case, and the evaluation of their architectural design goes hand in hand with that of their professional experience. Two museum buildings emerged as being strongly represented in these terms: the *Bilbao Guggenheim* and the *Abu-Dhabi Guggenheim*. Both are designed by

American architect Frank Gehry, but while the former has been completed, the latter is still under development at the time of writing.

Fig. 1: Guggenheim Bilbao: the building (G-a)

The website devoted to the Bilbao Guggenheim (Figure 1) describes a spectacular building resembling a sculpture, made completely of titanium, that has become a seat of pilgrimage for tourists; the radical innovation in architecture is presented as an asset for the museum, characterized as *a magnificent example of the most ground-breaking 20th-century architecture*, *an architectural landmark of audacious configuration and innovating design with a seductive backdrop*, *with a great visual impact*, *a real icon of the city*, which brings the architectural design to *a crescendo*, etc.:

(1) […] the Guggenheim Museum Bilbao building represents a *magnificent example of the most groundbreaking 20th-century architecture*. (G-a)

(2) […] *an architectural landmark of audacious configuration* and *innovating design*, providing *a seductive backdrop* for the art exhibited in it. (G-a)

(3) […] an architectural design with *a great visual impact* that has now become *a real icon of the city* throughout the world … (G-a)

(4) […] a sculpture gesture that brings the architectural design to *a crescendo* that appears to envelop *the colossal bridge* […] (G-a)

The text is characterised by an overwhelming use of evaluative language, mostly related to the semantic area of originality of the architecture. In particular, the selection of adjectives (*audacious*, *seductive*, *colossal*) reinforces the idea of an extreme design, where architecture has been pressed to the limit in order to strike visitors and leave them with an unforgettable impression. It does not come as a surprise that in this web text emotional linguistic features are strategically used – for instance, expressions like *audacious*, *seductive*, *crescendo*: White (2006) would call these formulations "attitudinal 'provocations', because the author's subjective presence is clearly made salient, with this subjectivity capable of being seen as directing the reader towards a particular attitudinal assessment" (2006: 9). The attitude to be provoked here is one of astonishment and surprise. Consequently, the architectural identity of the Bilbao Guggenheim is built on an emotional level and based on the extraordinary visual impact of the building.

A similar use of evaluative language was identified when analysing the web text of the Guggenheim Abu-Dhabi. The presentation informs the reader that the new building will cover a significant part of the Saadiyat Island in the Persian Gulf and will be surrounded on three sides by the sea. The lexical choices point to the idea of an innovative architecture: a museum in the desert, surrounded by the sea, is a new invention that would not be possible elsewhere. Features of originality and innovation are therefore stressed in the text via recourse to evaluative noun modifiers such as *inventive*, *new*, *innovative*, as well as *21st-century*:

(5) The Guggenheim Abu-Dhabi […] is an experiment in *inventive 21st-century museum design*. (G-h)
(6) The building defines *a new approach* to the museum visitor experience. (G-h)
(7) [The building] presents *an innovative vision* for viewing contemporary art in the context of a desert landscape (G-h)

As for the Bilbao Guggenheim, the architectural identity of the Abu-Dhabi Guggenheim is one of radical innovation and evaluative language contributes to highlighting this perspective. However, both museums are new constructions. A different approach might be expected in case the museums were not built *ex novo* but created from a renovation of previous sites. This point leads to the next relevant topic in the analysis, that of transformation.

3.2 Renovation and Transformation: *Tate Modern*, *Tate Liverpool*, *Tate St. Ives*

A second group of museum web texts offers a different scenario, resting on the theme of a *transformation* of previous spaces, adapted to contemporary needs. The degree of transformation may vary in a significant way according to the context, from a minor renovation to a complete re-construction and regeneration of earlier buildings. The web texts belonging to *Tate Modern*, *Tate Liverpool* and *Tate St. Ives* may be ascribed to this second category.

In the case of the London Tate Modern, an abandoned power station has been transformed into a national contemporary art museum in the South Bank area, with the high-profile architectural firm Herzog & de Meuron responsible for the planning and the design.

The Tate Modern and its vast turbine hall quickly became both an iconic landmark and a catalyst for the urban renewal of the Bankside area and its abandoned buildings. Tate's museum program and architecture won international acclaim, helping to revive London's image as a leading centre of contemporary culture.

Despite the radical transformations undertaken by the museum, the description provided by the web texts aims to construct an image of balance between old and new constructions. The following extracts show the recurring use of opposite adjectives such as *old/new, original/new* to highlight the effort of reconciliation between past and future:

(8) Take a look behind the art to see the fabric of Tate Modern, *old and new*. (T-f)

(9) The Switch House is the *new* extension to Tate Modern, built on the site of the *old* switch house of the power station. (T-c)

(10) Designed by architects Herzog & De Meuron, who did the *original* building conversion, it marries *old and new* technology to create 10 *new* floors of gallery space. (T-c)

The text further explains that one of the leading principles of the restoration was the conservation of the original buildings, to the point that even the designers were chosen in the light of their respect for the *original* architecture. It was the simplicity of their proposal, characterised by subtle alterations rather than grand gestures, which impressed the jury.

(11) When the building was converted into the gallery space we now know, architects Herzog & De Meuron retained *many of the original features,* from the unfinished brick walls and exposed steel construction beams, to

the narrow vertical windows stretching up to the cathedral-high ceiling at each end of the hall. (T-f)

(12) […] Swiss architects Herzog & De Meuron were appointed to convert the building into a gallery. That their proposal retained much of *the original character of the building* was a key factor in this decision. (T-c)

Clearly, the text aims at convincing that the Tate Modern's current architectural identity is up-to-date, but the past is not to be denied and the archaeology of the place has to be preserved.

Designed to be a major contemporary art gallery in the North of England, Tate Liverpool was not meant to be a poor relation of its London counterpart; it was created with the distinct identity of a gallery dedicated to showing modern art and encouraging a new younger audience. With this objective in mind, a seven-storey warehouse was converted into a five-storey modern art gallery. As in the case of Tate Modern, the web text reassures readers about the limited impact of the transformation undertaken by the building. Indeed, the architect's design *left the exterior […] almost untouched, but transformed the interior* into *simple, elegant galleries*:

(13) In 1985, James Stirling was commissioned to design the new Tate Gallery at Liverpool. His designs *left the exterior* of the brick and stone building built over a colonnade of sturdy Doric columns *almost untouched, but transformed the interior* into an arrangement of *simple, elegant galleries* suitable for the display of modern art. (T-d)

Moreover, the intervention is justified by the poor state the building was in before refurbishment, since "the dock, once a bustling site crammed with rich cargos from Asia, tea, silk, tobacco and spirits, was derelict" (T-d). The process of transformation is therefore not only presented as necessary for creating a new cultural site, but also for avoiding urban decline.

Further, in the case of Tate St. Ives, a sweeping transformation and change of destination were needed to create a new museum capable of representing the rich artistic life characterising the small Cornish town since Victorian times. The place chosen to host the museum was "a former gasworks overlooking Porthmeor Beach and the Atlantic Ocean" (T-e), in a small town on the southwest coast of England that might appear as "an unlikely site for a major art gallery" (T-e) but had a point of extraordinary interest in "its special quality of light" (T-e). Again, renovation is presented as necessary in consideration of its impact on the natural landscape, which is the strength of the site. Moreover, the intervention is described in the web text as conservative and respectful of the previous environment. This point turned out to be crucial in order to select the designers in charge of renovation, David Shalev & Eldred Evans, chosen in the light of their low-impact design.

(14) The architects […] were selected for designs that *echoed the shapes of the former gasworks* including the rotunda that forms the heart of the gallery. (T-e)

Lexical choices contribute to stressing the importance of a dialogue between the museum and its immediate surroundings: the design *echoed the shapes* of previous structures (*the former gasworks*) and visiting the museum is almost like visiting the town itself, because of the continuity created by designers.

The web texts presenting Tate Liverpool and Tate St. Ives are both emblematic of an architectural identity built upon the idea of a conservative intervention, were innovation has been limited to the minimum, keeping under control the impact of transformation on the surroundings.

So far, we have shown three similar ways of presenting the theme of architectural transformation in museum web texts. We have also noted that the message of transformation is delivered in a careful way by writers. However, even museums with an already established and definite architecture may feel the necessity to reassure audience about their intention to retain the building as it was originally, to maintain tradition and keep continuity with the past, which is the next relevant topic to be dealt with.

3.3 Past History and Continuity with the Present: *Solomon R. Guggenheim Museum*, *Peggy Guggenheim Collection*, *Tate Britain*

A third group of web texts is concerned with the *preservation of the historical identity* of the museum, which is already well established and associated with an iconic building: in this last case, the history of the building– and that of their founders and designers – is a key value, so as *continuity with the past*. This is the case of Solomon R. Guggenheim Museum, Peggy Guggenheim Collection and Tate Britain.

In 1959 the New York Solomon R. Guggenheim Museum moved from rented space to its current building designed by Frank Lloyd Wright: the cylindrical building, wider at the top than the bottom, has become a symbol of the city. Its description on the Guggenheim website is particularly interesting, as it shows the use of narrative to recreate the atmosphere of expectations for the birth of the new museum, but also to add elements of complication to the story.

(15) In 1943, Frank Lloyd Wright was commissioned to design a building to house the Museum of Non-Objective Painting, which had been established by the Solomon R. Guggenheim Foundation in 1939. In a letter dated June 1, 1943, Hilla Rebay, the curator of the foundation and director of the museum, instructed Wright, "I want a temple of spirit, a monument!". Wright's inverted-ziggurat design was not built until 1959. Numerous factors contributed to this 16-year delay […]. The death of the museum's benefactor, Solomon R. Guggenheim, in 1949 further delayed the project. It was not until 1956 that construction of the museum, renamed in Guggenheim's memory, finally began. (G-e)

In this extract the story of the building is told in a narrative way, drafting a scheme that comprises all basic components of a story according to Toolan (1988: 12): characters, settings and events. The main characters are Frank Lloyd Wright and Hilla Rebay, the setting is New York City in mid-twentieth century, while the events are the difficulties faced to complete the project and the death of the owner and architect before they could see the completion.

We find a similar approach in the web text of the Peggy Guggenheim Collection in Venice. The museum is located in an unfinished building which has never changed in its aspect over the centuries. The language used in the text insists on the semantic areas of incompleteness (*unfinished*, *We do not know*, *left unfinished*, *Nor is it known*) and mystery (*unhappy fate*, *flamboyant Marchesa*).

(16) [Palazzo Venier dei Leoni] is an *unfinished* palace. (G-f)

(17) *We do not know* precisely why this Venier palace *was left unfinished*. Money may have run out, or some say that the powerful Correr family living opposite blocked the completion […]. Another explanation may rest with the *unhappy fate* of the next door Gothic palace which was demolished in the early 19th century […]. *Nor is it known* how the palace came to be associated with "leoni" lions. (G-f)

(18) From 1910 to c. 1924 the house was owned by the flamboyant Marchesa Luisa Casati, hostess to the Ballets Russes […]. In 1949, Peggy Guggenheim purchased Palazzo Venier from the heirs of Viscountes Castlerosse and made it her home for the following thirty years. Early in 1951, Peggy Guggenheim opened her home and collection to the public and continued to do so every year until her death in 1979. (G-f)

As in the case of the New York Guggenheim, the construction of the Peggy Guggenheim Collection's architectural identity draws on the history of the building and its inhabitants (the Marchesa and Peggy Guggenheim herself), a story told in a narrative way and set in a mysterious background.

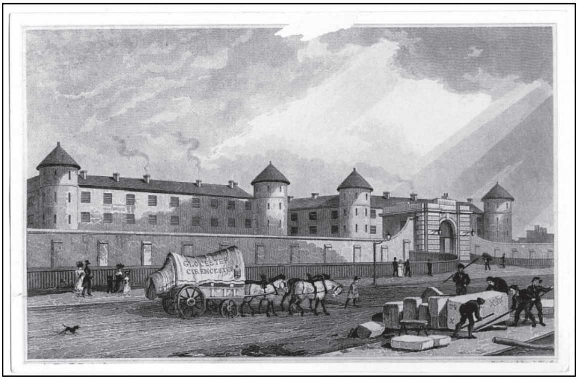

Fig. 2: Tate: Engraving of the Penitentiary, Millbank, on the site of the present Tate Gallery (T-b)

History and tradition play a very important role also in the case of Tate Britain. The museum that we see today is a very different gallery from the one which opened in 1897. Since its original opening, with just eight rooms, Tate Britain has had seven major building extensions. Still, its architectural identity is strong and well defined, to the point that the museum's facade has become an icon of London. Writers in charge of the museum web texts seem well aware of that and symbolically define the gallery as "the home of British art from 1500 to the present day" (T-a), lexically connoting the place in terms of affection and Britishness (*The statue of Britannia with a lion and a unicorn*, *a gallery of the British art*). The web description also marks the importance of authority and tradition as appropriate values for a national gallery, whose identity comes across as grand, sacred and symbolic (*grand porticoed entranceway*, *dome*, *which resembles a temple,*):

(19) *The statue of Britannia with a lion and a unicorn* on top of the pediment at the Millbank entrance emphasised its function as *a gallery of British art*. (T-a)

(20) Sidney R.J. Smith was chosen as the architect for the new gallery. His design is the core building that we see today, *a grand porticoed entranceway* and *central dome* which resembles *a temple.* (T-a)

Elsewhere on the website, means of narrative are employed to look back to a time when the site held not a gallery but a prison, the 'dreadful' Millbank Penitentiary (Figure 2):

> (21) [...] there had been a prison on the site of Tate Britain from 1816 to 1890 […]. The prison staff lived in the very desirable residences which can still be seen today […]. The conditions for the prisoners were not quite so good! […]. After 1842, Millbank was no longer used as a reformatory prison but accommodation for convicts who had been sentenced to transportation to Australia. Convicts were transported to Australia from the late 18th century until 1857 when courts needed a punishment which was not as extreme as hanging but more harsh than a fine […]. (T-b)

The narrative section further highlights the 'Britishness' of the place, which had been described also by Charles Dickens, possibly one of the greatest national writer, in *David Copperfield*.

Narrative sections and evaluative expressions stressing the values of traditions are the main ingredients of the Tate Gallery's web texts. Not only is the architectural identity of the museum built upon its history, rather, the museum itself is presented as a relevant part of the cultural heritage and national identity.

4. Conclusions

The study has focused on museum web texts from the point of view of architectural discourse: particular attention has been paid to lexical choices and textual strategies adopted by writers to shape the public image of museums.

Given the limited number of websites under investigation, it was only possible to catch a glimpse of the distinctive language features and strategies used in museum web texts. However, the most relevant values underlying the definition of museums' architectural identity were identified: those of creation, transformation, and continuity with the past.

Our brief analysis shows that such values do not easily coexist in web texts but have to be negotiated. Web writers have to accurately define their message, selecting a path in the communications. This means choosing an architectural aspect which can turn out to be a value for the museum and sticking to it. Authors may decide to focus on the idea of an ultramodern architecture and make it their principal asset. Or they may focus on the history – and therefore the tradition – of the institution, which can be unique and fascinating as well. Eventually, they may seek a balance between innovation and tradition, underlining both aspects as relevant.

Different degrees of positive evaluation can be expressed through linguistic choices, ranging from quality to novelty, importance, and uniqueness. Generally, museums which have chosen radical innovation at the architectural level make use of audacious lexis and are not afraid of emotional language on their websites; conversely, museums more cautious in revolutionising their architecture are also more cautious at the lexical level and their language reflects an effort to reconcile the duality between old and new. Narrative sections may work as a strategy for enhancing an already established architectural identity and stressing continuity with the past.

Both museum networks – the Guggenheim constellation and the Tate family – are characterised by a hybrid nature suspended between past and future, as reflected by the presence of old and new museum buildings in their organisation. Judging from the web texts, the Guggenheim constellation seems more focused on future architectural developments rather than conservative issues, which may be a consequence of its younger identity (the Guggenheim Foundation was founded only in 1937). Conversely, the Tate family, which first opened its doors to the public in 1897, places great attention on tradition and recovery of origins.

The exploration of museum websites shows that these new media are not just a means for communicating knowledge about a museum's collections and exhibitions, or about the museum itself, but are also crucial to construe, enhance and ultimately promote the brand identity of museums. Architectural discourse contributes significantly to this branding process and to the definition of a public image reaching visitors on a global scale. The lexical choices reflect how museums adapt to the challenges posed by architecture and how ad-hoc textual strategies can transform such challenges into a communication asset.

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CHAPTER EIGHT

KNOWLEDGE DISSEMINATION THROUGH TOURIST GUIDEBOOKS: POPULARIZATION STRATEGIES IN ENGLISH AND ITALIAN GUIDEBOOKS FOR ADULTS AND FOR CHILDREN

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Abstract: The article investigates the discourse of guidebooks in terms of popularization, that is, in terms of the ways in which specialised and culture-specific concepts are reconceptualised and recontextualised to meet the needs, tastes and background encyclopaedia of the ideal reader. English and Italian guidebooks for adults and for children were analysed in order to compare the communicative strategies used in the two languages and in materials meant for different age groups. Whereas guidebooks for adults are a well-established genre in both lingua-cultural systems, guidebooks for children are a relatively new subgenre in the Italian market and the first popular instances were, in fact, translations of English guidebooks for young travellers. Some noticeable differences were found cross-linguistically in guidebooks for adults. Such differences are significantly levelled out in guidebooks for children, which display a tendency towards simplification and informality in both languages. However, some of the distinctive features of the genre in Italian are preserved. For this reason, the last part of the article focuses on the impact of translation on the popularization strategies identified in guidebooks for children.

[1] The Introduction and Concluding remarks were written by both authors together. Gloria Cappelli wrote Sections 2 to 4; Silvia Masi wrote Section 5.

1. Introduction

Travel guidebooks are a popular genre in tourism studies (Cappelli 2006, 2016; Maci 2013; Peel, Sørensen 2016) and have been studied from many perspectives and within different traditions of research, including sociology, anthropology, history and, of course, linguistics. This vast body of research converges in identifying two main functions of guidebooks: a leading and a mediating function.

Guidebooks help travellers navigate destinations by offering recommendations on the practical aspects of travel as well as advice on the best sights, on the local culture and language, and on the history, geography and heritage of the destination. In so doing, they "mediate" the experience of the traveller by selecting specific aspects and describing them for their ideal readership. Through their linguistic choices, guidebooks choose what is culturally meaningful and present the local culture to tourists in a way that makes it easily understandable for them. In other words, they act as 'culture brokers' (Cohen 1985) and contribute to the 'process of sacralisation' of the destination (Crang 2004) by transforming sights into 'must-sees'.

This mediating function of guidebooks is mostly realized through the linguistic cross-cultural representation of the 'other' (Bhattacharryya 1997; van Gorp 2012), which guides the tourist gaze (Urry 2002). Through discourse, they provide instructions on how to interpret the foreign culture and reduce the gap between the travellers' home culture and the destination's culture (Cappelli 2016). Through specific communicative strategies, many relevant aspects of the latter (e.g., art, history, geography, language, traditions, etc.) are made understandable for the tourist. Connections between the 'known' and the 'new' are created by exploiting mental representations already available to travellers to help them make sense of what is unfamiliar (ibid.).

It is therefore interesting to look at guidebooks in terms of the communicative strategies used to make complex and sometimes specialized knowledge available and accessible to a wide international audience. Guidebooks for children represent an interesting subgenre in this regard, because young travellers generally do not have well-established cultural filters and needs. Their expectations about the destination (if any) may be completely different from those of adult travellers. Moreover, many of the concepts and mental representations available to adult tourists may not be available to children for lack of knowledge or cognitive skills. This has an impact on the subgenre itself, which is primarily a form of "edutainment". Its main goal is to entertain the young readers while educating them at the same time. Rather than guiding their tourist gaze, guidebooks for children contribute to its creation by providing young travellers with the knowledge they need to interpret a new and foreign environment (ibid.).

Section 2 introduces the aims of the research. Section 3 presents the data and the methodology used to analyse them. Section 4 discusses the popularization strategies observed in guidebooks for adults and for children. Section 5 presents the results of a case study on popularization strategies in a parallel corpus of kids' guidebooks. Finally, Section 6 draws some conclusions.

2. Aims of the Research

The socialization and enculturation of the tourist relies on the way in which the tourist industry decides to present information about destinations and sights. In order to 'sacralise the sights' (MacCannell 1989), they are described in terms of their relevance within a certain cultural framework. If the reader is part of that same framework, mediation is easier. In that case, author and reader can rely on a larger amount of shared knowledge. The farther the cultural references and framework, the more important (and complex) is the mediating role of guidebooks. Given the popularity of the genre (in its traditional as well as in its more recent formats), it is fair to assume that it has played an important role in knowledge dissemination and that it still does. All guidebooks include sections about history, geography, art, architecture, and economy. Famous sites are described in terms of their artistic and symbolic value, sometimes with reference to technical concepts. Moreover, since the communicative strategies through which knowledge is presented and popularized are influenced by cultural orientations (see Hall 1990; Hofstede 1991, 2001; Katan 2006; Manca 2012, 2016, 2017), guidebooks in English and in Italian might differ in this respect.

The research[2] was guided by three main questions. Firstly, it aimed at verifying the underlying hypothesis that the discourse of guidebooks can be analysed in terms of popularization, that is, in terms of the reconceptualisation and recontextualisation of expert discourse that meet the needs, tastes and background encyclopaedia of lay readers (Myers

[2] This study provides an in-depth analysis of popularization strategies in English and Italian guidebooks for adults and for children. It builds on previous research that also dealt with guidebooks for children and was published in Cappelli (2016).

2003; Calsamiglia, van Dijk 2004; Hyland 2005; Garzone 2006; Gotti 2013; Mattiello 2014; Cappelli 2016). Given the fact that English culture and Italian culture can be respectively classified as a *Low Context Culture* (LCC) and a *High Context Culture* (HCC) (Hall 1990; Katan 2006; Manca 2016, 2017), different strategies could be expected in the two languages. In a LCC the information encoded is more important than the form used to encode it. In contrast, in a HCC, the form in which the message is "packaged" is just as important as the message itself, if not more so. Thus, texts produced within LLCs tend to be shorter and simpler. Communication is kept reader-friendly, direct and rather informal. Texts produced in HCCs tend to present information in large chunks, through longer sentences, and the style is formal and indirect, similar to that associated with expert to non-expert communication. For this reason, English and Italian data were compared.

The second research question focused on the differences in popularization strategies in guidebooks for adults and for children. Most adult tourists approach travel with a variable amount of knowledge about the destination's history, geography, art or customs. They also come equipped with knowledge about their own culture and the world. Such knowledge may have been acquired through experience or learnt through years of formal education. It provides the foundations for the acquisition of new knowledge through the integration of novel and old scripts. In other words, stored knowledge can be exploited to make sense of new "data" and to transform them into new knowledge.

Depending on their age, young travellers might lack the necessary infrastructure to make sense of the sights or of the culture of the destination. They might, for instance, not be aware of the differences in lifestyle throughout history. They might not be familiar with specialised vocabulary and/or concepts. They might not be able to apply cultural relativity to interpret the customs they encounter. They might not even have the cognitive skills to process complex stimuli. For these reasons, specific strategies must be adopted in order to make the destination, its culture and sights presented easily understandable for them, in spite of the limited interpretive resources at their disposal.

Finally, whereas guidebooks for adults are a well-established genre in both lingua-cultural systems, guidebooks for children are a relatively new subgenre in the Italian market and the first popular instances were, in fact, translations of English guidebooks for young travellers. The third question deals, therefore, with the impact of translation on the popularization strategies identified in guidebooks for children.

3. Data and Methodology

The data discussed in Sections 4 and 5 come from a qualitative analysis of three small corpora: i. a comparable corpus of English and Italian guidebooks for adults; ii. a comparable corpus of English and Italian guidebooks for children; iii. a parallel corpus of English and Italian guidebooks for children. The choice to carry out a qualitative analysis was made for several reasons. Firstly, popularization often relies on more than just one linguistic form or expression. Automatic extraction of data from the corpora would limit the range of observable phenomena. Secondly, guidebooks, especially those for children, are an intrinsically multimodal genre. Even though the present discussion does not offer an in-depth multimodal analysis of the genre, separating texts from images would have inevitably resulted in a partial picture of the popularization strategies adopted.

The aim of this preliminary investigation was to obtain an overview of the different strategies adopted to make concepts relative to the sights or the destinations accessible. The frequency of the individual phenomena and their statistical relevance in the genre or sub-genres was not measured. Consequently, it was not possible to make specific generalizations, such as, for instance, on distinctive strategies for specific age groups in guidebooks for children. Developmental differences connected with the age of the intended readership were only taken into account for the case study presented in Section 5, which discusses translation strategies in guides for young travellers. The quantitative analysis of the data remains an interesting question for further research. In the choice of the materials to include in the corpora of guidebooks for children a broad definition of guidebooks was adopted. Texts that are immediately recognizable as guidebooks in the classic sense of the term were included alongside with sticker books and lift-the-flap books about well-known destinations. The underlying assumption is that the macrofunction of such materials for a young readership is comparable to that of traditional guidebooks for an older audience. The texts included in the corpora are presented in Tables 1 and 2 (for further details, see Appendix 1. Guidebooks). The larger number of texts for children is due to the fact that the amount of text included in each is limited. They are ordered according to the ideal age group for which they have been devised, from the youngest to the oldest audience.

Tab. 1: Guidebooks for adults

TITLE	PUBLISHER	LANGUAGE
Pocket Rome	Lonely Planet	English
Rome	Lonely Planet	English
London	DK EyeWitness	English
Pocket Rome	Lonely Planet	English
Rome	Lonely Planet	English

Tab. 2: Guidebooks for children

TITLE	PUBLISHER	LANGUAGE
Usborne First Sticker Book London	Usborne	English
Libri con adesivi Londra	Usborne	English > Italian
Pimpa nell'Antica Roma	ElectaKids	Italian
Pimpa va a Milano	Panini	Italian
Milan for Kids. A City Guide for Kids.	Panini	Italian > English
Pimpa va a Firenze	Panini	Italian
Florence for Kids. A City Guide for kids.	Panini	Italian > English
Rome City Guide for Kids	ZigZag City Guides	English
This is Rome	Universe Publishing	English
This is London	Universe Publishing	English
I bambini alla scoperta di… Roma Antica	Edizione Lapis	Italian
A spasso per Roma	Edizione Lapis	Italian
Kids' Travel Guide Rome	Flying Kids	English
Kids' Travel Guide London	Flying Kids	English
A Smart Kids Guide to Impressive Italy	Thought Junction Publishing	English
Not for Parents London	Lonely Planet	English
Vietato ai Genitori Londra	Lonely Planet	English > Italian
Not for Parents Rome	Lonely Planet	English
Vietato ai Genitori Roma	Lonely Planet	English > Italian
50 Things to Spot in London	Usborne	English
Un viaggio a Londra	Touring Editore	Italian
Cartoville Roma con i bambini	Touring Editore	Italian

4. The Discourse of Guidebooks and Popularization

4.1 Popularization Strategies in Guidebooks for Adults

Calsamiglia and van Dijk (2004: 370) describe popularization as

> a vast class of various types of communicative events or genres that involve the transformation of specialized knowledge into 'everyday' or 'lay' knowledge [...]. This means that popularization discourse needs to be formulated in such a way that non-specialized readers are able to construct lay versions of specialized knowledge and integrate these with their existing knowledge.

Popularization discourse has received a fair amount of attention over the past decade (Garzone 2006; Gotti 2013; Mattiello 2014). Studies have focused on its rhetorical structure, lexical choices, textuality, and on the specific strategies used to make expert content understandable to the non-expert reader (e.g., use of narration or figurative language, explanation, etc.). Many linguistic strategies have been identified as typical of popularized discourse: explanation in all its various forms, such as definition and exemplification, metaphors, descriptions, comparison, and analogy. They all have a common function, namely to allow language users to relate new representations to old representations (Calsamiglia, van Dijk 2004; Gotti 2013). In other words, they make sure that new concepts become "accessible" to the reader.

Information about the destination's culture is usually presented as a fact, through a mix of narration, engagement of the reader and *virtualization*, that is, the creation of a virtual image of the tourist experience (van Gorp 2012). The most common popularization strategies found in guidebooks for adults are explanation in its different forms (e.g., description, denomination, analogy, exemplification and definition), anchoring to the reader's background knowledge and life experience, attribution (i.e., the explicit mention of the source of the information provided), and use of more than one semiotic code at the same time.

4.1.1 Explanation

Explanation is by far the most common strategy found in guidebooks in both languages. It is present in the corpus with various types of textual instances, such as definition, denomination or description. It is used to present concepts that might be useful to interpret the sights and which the author assumes are not yet available to the target reader. This is often the case with specialized vocabulary items and culture-bound words.

Definition and *description* are often used interchangeably in the literature on explanation. Calsamiglia and van Dijk (2004) distinguish between the two by specifying that definitions explain unknown words and descriptions explain unknown things. Regardless of the terminological issue, definition/description is probably the most common explanatory strategy found in guidebooks. Definition is often instantiated through juxtaposition of specialized terminology and non-specialized vocabulary as in (1).

(1) To the north was the vast emperor's throne room (the aula regia); to the west a basilica (used by the emperor to meet his advisers) and to the south a large banqueting hall, the triclinium. (Lonely Planet *Rome*, p. 63)

This passage exemplifies the variety of forms *juxtaposition* can take. General terms can be followed by a specialized term in quotes, in italics, or between dashes. Other possibilities include the use of brackets and a different order of term and definition. Frequently, specialized vocabulary is defined in terms of more familiar concepts as in the preceding example, where references to the throne rooms and banqueting hall are likely to be easily accessible to English-speaking readers. The treatment of the term "basilica" is especially interesting because the word is defined in functional terms. The reader might, in fact, be familiar with the label, but not with the specialized sense. In present-day English, a basilica is a place of worship. In the Roman times, though, the basilica was a place for political meetings.

Explanation is also instantiated through *reformulation* as in (2) or through word puns and very explicit explanatory passages focusing on specific concepts as in (3).

(2) Trapdoors led down to the hypogeum, an underground complex of corridors, cages and lifts that extended beneath the arena floor. (Lonely Planet *Rome*, p. 63).

(3) "Renaissance – a new beginning. Bridging the gap between the Middle Ages and the modern age, the Renaissance (Rinascimento in Italian) was a far reaching artistic and cultural movement. […] The movement's intellectual cornerstone was humanism, a philosophy that focused on the central role of humanity within the universe." (Lonely Planet *Rome*, p. 275)

The same strategies are commonly found in Italian guidebooks. The latter, however, seem to resort to more formal constructions for definition and description as in (4). Moreover, some terminology is presented without any explanation in the immediate cotext. Some guidebooks include glossaries (e.g., Touring Editore guides), in which readers can find the definition of lexical items that are starred in the main text.

(4) "Con il nome di Foro di Nerva o Foro Transitorio si indica il grande complesso che venne edificato in realtà da Domiziano e solo inaugurato dal suo successore Nerva, nel 97 d.C.. Il nome "transitorio" deriva dalla funzione di passaggio tra il quartiere popolare della Suburra (nella zona dell'attuale Rione Monti) e il Foro Romano. […] dell'edificio rimangono parte del podio e le cosiddette colonnacce fungenti da portico (sull'attico *fregio** a bassorilievo) […]." [The names Foro di Neva or Foto Transitorio are given to … The name Transitorio derives from … and the so-called colonnacce ... (on the attic, a bas-relief *frieze*…)] (Touring Editore *Roma*, p. 80).

4.1.2 Analogy

Analogy is used to reduce the gap between the tourist's and the destination's culture as in (5). This is often done by providing an *anchor* to the reader's culture as in (6).

(5) La porzione di Inghilterra che ingloba la metropoli, e che è formalmente divisa in South East e East, è come un frutto a tre strati in cui il nocciolo sono i quartieri centrali della città, la polpa la sua area metropolitana e la buccia esterna le 15 contee che compongono i due territori regionali. [(the area) is like a three-layered fruit in which the pit represents the city center, the flesh its metropolitan area and the skin the 15 counties which …] (Touring Editore *Londra*, p.32)

(6) Ancient Rome's Fort Knox, the Temple of Saturn was the city treasury (Lonely Planet *Rome*, p.63)

Anchoring is also found in Italian guidebooks, as in (7).

(7) Il sole è un evento eccezionale, il vento forte è la normalità e le acque del mare non raggiungono mai una temperatura gradevole per le abitudini mediterranee. […]" [Sun is rare, winds are strong and sea water never reaches a temperature which is pleasant by Mediterranean standards] (Touring Editore *Londra*, p. 36)

4.1.3 Attribution

Attribution is frequently found in English guidebooks. Passive constructions are the most common structure used. References to prestigious or reliable sources are also found, such as famous scholars' statements or scientific research. They are sometimes accompanied by epistemic markers (e.g., *appear*, *seem*, etc.), which lower the level of commitment with which specific assertions are made. Example (8) below includes different attribution strategies found in the corpus of English guidebooks for adults.

(8) Where did they come from? This question has fascinated historians ever since the 5th century BC when Herodotus wrote that they came from Lydia, escaping famine in what is now Turkey. It was later proposed that Etruscans were a Pre-Indo-European native race, and archaeological and linguistic evidence supports this theory. However, in 2007, DNA tests seemed to support the idea that they came from north-west Asia, and so the controversy continues". (Lonely Planet *Rome*, p. 242)

Epistemic hedging was not found in the Italian data, in which attribution is generally used to provide strong support to a statement as in (9).

(9) Le più antiche testimonianze archeologiche della città di Roma risalgono alla media età del Bronzo (XIV secolo a.C.) con la presenza di uno stanziamento sul Campidoglio. A partire da quest'epoca si avvia un processo di stanziamento protourbano sempre più esteso. La leggenda della nascita di Roma sul Palatino per iniziativa di Romolo, alla metà dell'VIII secolo a.C. confermata dal ritrovamento delle fondazioni di capanne risalenti allo stesso periodo, è legata alla posizione strategica del colle presso l'ansa del Tevere, punto di controllo di traffici commerciali. [The oldest archaeological evidence […] The legend […] confirmed by the finding of…] (Touring Editore *Roma*, p. 46)

This passage exemplifies another feature commonly observed in the Italian data: the presence of technical terms without any form of explanation, which might not be easily accessible to all non-expert readers (e.g., *un processo di stanziamento protourbano*, literally 'a process of proto-urban settlement'). There are very few similar occurrences in the English data. When specialized terminology is used and left verbally unexplained, it is often accompanied by images which make the meaning accessible to the lay reader.

4.1.4 The Role of the Iconic Apparatus

Images play a decisive role in accessibility creation and enhancement in guidebooks for adults in English, whereas in Italian guidebooks they have a more traditional role of accompanying and illustrating the text. The visual material is essentially limited to photographs of some of the attractions described and very few are included in the body of the text. Most of the photos provided are gathered in a dedicated section. In English guidebooks, on the contrary, the use of photos and illustrations is pervasive and contributes to making meaning accessible by engaging readers through various strategies exploiting a complementary relation between codes. In fact, exemplification and the explanation of specialised and culture-specific concepts are often delegated to images and pictures rather than to descriptive text.[3]

4.1.5 Informal Lexical Items

In the English data, informal lexical items are sometimes used to discuss historical events or cultural information about the destination as in (10).

(10) For much of its history, the Church <u>called the shots</u> in Rome and many of the city's top sights are religious in origin. (Lonely Planet *Pocket Rome*, p. 170)

In such cases, idiomatic expressions or phrasal verbs substitute corresponding more formal expressions (e.g., *exercised authority* or *controlled*) and contribute to the popularization of specialized information. By presenting it in a familiar and informal register, they reduce the social distance between the writers and the readers (Crawford Camiciottoli 2004, 2016) and make expert content more accessible to the non-expert reader. No similar examples were retrieved in the Italian data. Quite to the contrary, Italian guidebooks seem to prefer a formal and even academic register as in (11).

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[3] A thorough discussion of the nature and function of images in guidebooks would exceed the limits of this paper. There is no doubt that images have a communicative power of their own (Barthes 1977 [1964]) and that the iconic and textual apparatus interact in complex ways to create added layers of meaning (Bateman 2014), including in tourism discourse (Francesconi 2014; Hiippala 2015). A multimodal analysis of popularization strategies in this popular genre could contribute to unveiling further interesting aspects of age-specific knowledge dissemination. We have touched upon this matter only very briefly in this section and in Section 4.2.2 below with no pretence of being exhaustive. This remains a project for future research.

(11) La produzione scultorea è dominata dalla produzione a tarsie di marmi policromi di portali, pavimenti, transenne... [the sculptural production is dominated by the production of portals, floors, fences decorated with inlaid polychrome marble…] (Touring Editore *Roma*, p. 48)

4.2 Popularization Strategies in Guidebooks for Children

This section of the paper presents an overview of the research already discussed in detail in Cappelli (2016). In the case of guidebooks for children, the concept of "recontextualisation" proposed by Calsamiglia and van Dijk (2004) assumes special relevance. The authors claim that "popularization discourse must always adapt to the appropriateness conditions and other constraints of the media and communicative events" (ibid.: 371). Guidebooks for children represent a specific subgenre, shaped partly by generic constraints, and partly by the particular nature of its intended readership. Since children's general knowledge is limited when compared to the average adult's, recontextualisation processes shape the linguistic code in a more dramatic fashion. Young readers need to be 'guided' more extensively in their interpretation. For this reason, it is especially interesting to study how popularization is realized in guidebooks for children.

Guidebooks for children have a long-standing tradition in the English-speaking world. The first instances of what could be called modern guidebooks for children were published in the UK in the 1950s. Since their publication, a plethora of titles have appeared, some by independent publishers and some by the "big names" in the industry, such as Lonely Planet. In Italy, this sub-genre is still a novelty. The first few guides for young readers originally written in Italian appeared at the end of the 1990s, but it is only after 2010 that guidebooks for children have started to become a relatively popular editorial product.

Guidebooks for children differ from guidebooks for adults in many ways, ranging from their format to their content (Cappelli 2016). These aspects are shaped by the characteristics of the age group for which they are intended. They vary from the traditional book format to the lift-the-flap-book and collector's cards format. They represent a hybrid genre, which includes features of picture books, activity books, card games, information books and personal journals. The older the target audience, the more traditional the format.

Guidebooks for children lack the useful information sections found in guidebooks for adults, because young travellers do not choose hotels and restaurants and do not normally travel by themselves. The contents and their presentation seem to take into account the cognitive skills of the different age groups for which they are intended (Valkenburg, Cantor 2001). Thus, books addressing young children (0-5) are rich in simple, colourful illustrations, and hands-on activities such as stickers or flaps. They usually include popular fictional characters, which can provide an anchor to known elements, and exploit fairy-tale-like narration (Cappelli 2016).

Guidebooks for 6-12 year old children include longer texts, anecdotes and "fun facts", and game-like activities with a formative aim. They also include a fictional character who guides the child towards discovering the destinations. Children this age, in fact, have a longer attention span, start to prefer social play, can appreciate complex plots and characters and more difficult and varied contents, including humour. Preteens and teenagers place increasing importance on the opinion of peers. They develop a more complex interest in real world phenomena and become attached to real-life heroes such as sport and movie stars (Valkenburg, Cantor 2001), which is reflected in the choice of anecdotes in guidebooks (Cappelli 2016). Guidebooks for teenagers are similar to guidebooks for adults in format, but they are often written in a more "subversive", "not-for-parents" style (cf. Lonely Planet *Not-for-Parents* series). This accommodation of the cognitive and psychological features of the target audience is in itself a way to "adjust" and popularize the content.

4.2.1 Verbal Strategies

The same verbal strategies found in guidebooks for adults were also found in guidebooks for children (Cappelli 2016). The most common ones are explanation in its different forms (e.g., description, denomination, analogy, exemplification and definition) and anchoring to the reader's background knowledge and life experience. Attribution, the use of more than one semiotic code at the same time and generic hybridization are also used to make complex concepts accessible (ibid.). There are, however, interesting differences between the two sub-genres. More specifically, guidebooks for children show a tendency towards explicitness, simplification, generalization and engagement of the reader.

The effort to make things extremely accessible for the intended audience emerges in both the English and the Italian data in the strategies used for explanation. Explicit explanatory passages focusing on general concepts relative to tourism and the genre itself (often in the form of negation of the genre) are found in most guidebooks. Thus, it is quite common to find a more or less brief comment on its hybrid nature, and instructions for the reader on the best way to make the most of it.

(12) This is not a guidebook. And it is definitely not-for-parents. It's the real inside story about one of the world's most famous cities – London. In this book you will hear fascinating tales about famous and infamous people, creepy underground places, dark history and strange characters galore. (Lonely Planet *Not-for-Parents London*, p. 3)

(13) Questa non è la solita guida. È un libro illustrato, un diario di viaggio ed è anche una raccolta di storie su luoghi, personaggi e monumenti… [This is not the usual guide book. It's an illustrated book, a travel journal and it's also a collection of stories about places, people and attractions…] (Lapis *A spasso per Roma*, p. 2)

The same preference for explicitness is observed in the presentation of concepts that might be useful to interpret the sights and the culture encountered at the destination as in (14) and (15):

(14) Renaissance is French for "rebirth." The Renaissance period started in Florence. There was a lot of new growth in the arts, architecture, and science. (Kids' Travel Guide *Rome*, p. 13)

(15) Quando si parla di secoli di solito si usano i numeri romani. As esempio puoi trovare scritto XII secolo, che si legge dodicesimo secolo e si riferisce al periodo che va dall'anno 1100 e 1199. […] Puoi anche trovare abbreviazioni come '300 per indicare il 1300, inteso non come anno ma come secolo che va dal 1300 al 1399. [When we talk about centuries, we generally use Roman numbers. For example, you can find XII century, which is read twelfth century and refers to the period that goes from the year 1100 to the year 1199. […] You can also find abbreviations such as '300 to indicate 1300, not as in the year, but as in the century that goes from the year 1300 to the year 1399.] (Edizioni Lapis *I bambini alla scoperta di Roma Antica*, p. 7)

Descriptions and definitions are very frequent. Specialized vocabulary items are explained in simpler terms and with fewer details than in guidebooks for adults. Compare for example (16) to (2) above.

(16) The Colosseum is full of underground passages called hypogeum. (Flying Kids *Kids' Travel Guide Rome*, p. 54)

Juxtaposition is used to provide definitions as in guidebooks for adults, but specialized terms and non-specialized equivalents are frequently connected in an explicit way as in (17) to (20).

(17) Le catacombe venivano scavate da operai, i "fossori", che arrivati a 5 o 10 metri sotto terra in un punto dove il tufo lo permetteva, iniziavano a scavare con il piccone le gallerie. Lungo le gallerie venivano aperte delle specie di stanzette, i cubicola, dove si ricavavano nicchie rettangolari – i

loculi – per adagiare i defunti. [The catacombs were dug by builders, the "fossori", who dug small tunnels 5 to 10 meters below ground level, where the tuff allowed it. Along these tunnels, small rooms were opened, the cubicula, where small rectangular openings were created – loculi – for the dead to rest in] (Edizioni Lapis *A spasso per Roma*, p. 14)

(18) People from France, called the Normans, captured London in the Middle Ages. They built the Tower of London. Life in London was very hard. It was a dirty and smelly place, with lots of sickness. (Flying Kids *Kids' Travel Guide London*, p. 12)

(19) Have you spotted any domes in Rome? What is a dome? A dome is a structure that looks like the top half of a circle and is hollow inside. (ZigZag City Guides *Rome*)

(20) Ma questo non fu il motivo principale che portò ad utilizzare per l'arco materiali e decorazioni di spoglio, tolti cioè da edifici più antichi. [But this was not the main reason that led to using spolia for the arch, that is, materials and decorations salvaged from earlier buildings] (Edizioni Lapis *I bambini alla scoperta di Roma Antica*, p. 58)

Generalizations are numerous in the English data, but they are rare in the Italian data. Generalization consists in paraphrasing or providing a general definition to substitute specific elements as in (21) and (22). Thus, *a home for the Royals* is a generalization of the term *palace*, *a place to store weapons* is a generalization of the technical term *armoury*, and the act of *moving a few cows and starting digging* substitutes the reference to *archaeological excavations*.

(21) Over the years the Tower has been used in many ways. It's been a home for the Royals - and a famous prison where two of King Henry VIII's wives were beheaded! It's also been a mint (a place where money is made), a place to store weapons, and even a zoo". (Flying Kids *Kids' Travel Guide London*, p. 17)

(22) Ma una così grande ricchezza non poteva certo rimanere sepolta sotto la terra per sempre! Bastava spostare un po' di mucche e cominciare a scavare per trovarne i resti! Negli ultimi 200 anni infatti gli archeologi (gli studiosi delle civiltà antiche) iniziarono a riportare alla luce ciò che del Foro era ancora rimasto. [But such a wealth could certainly not remain underground forever! You just had to move a few cows and start digging to find its remains! Over the past 200 years, in fact, archaeologists (people who study ancient civilizations) have started to bring back to the light what was left of the Forum] (Edizioni Lapis *I bambini alla scoperta di Roma Antica*, p. 15)

Generalization is usually opposed to exemplification (Calsamiglia, van Dijk 2004). Surprisingly, exemplification is very rare in guidebooks for children in English. On the contrary, it is quite common in Italian (see example (15) above).

In line with this drive towards simplification, attribution in guidebooks for children is normally very generic and authors tend to refer to legends and hearsay, rather than to famous scholars or research data. Few occurrences of references to authoritative sources were found in the corpus, the vast majority of which were retrieved from the Italian data:

(23) Alcuni studi hanno infatti dimostrato che nella disposizione delle immagini, nella scelta dei soggetti nulla è casuale… [Some studies have shown that…] (Edizioni Lapis *I bambini alla scoperta di Roma Antica*, p. 58)

(24) "Busy emporium for trade and traders", it was described by the Roman historian, Tacitus, on thousand nine hundred years ago. (Universe Publishing *This is London*, p. 9)

In spite of the attention towards simplification and explicitness, the Italian data show the same tendency towards preserving some terminology found in Italian guidebooks for adults. Whereas no instances of unexplained specialized vocabulary were found in the English guidebooks for children analysed, several examples could be retrieved from the Italian data.

(25) Tutti gli ordini: tuscanico (colonna e capitello lisci), dorico romano (colonna scanalata e capitello modanato), composito (capitello con volute e foglie di acanto). [All the orders: Tuscan (un-fluted column and capital), Roman Doric (fluted column and molded capital), composite (capital with volutes and acanthus leaves] (Touring Editore *Cartoville Roma con i bambini*)

(26) L'arco è a tre fornici (aperture ad arco) ed è interamente rivestito di marmo. [The arch has three fornices (arched openings) and it is entirely covered with marble] (Edizioni Lapis *I bambini alla scoperta di Roma Antica*, p. 19)

The most distinctive features of guidebooks for children in both languages are the pervasive engagement strategies and the frequent anchoring to the reader's experience, culture, time and presupposed knowledge background. Several different strategies are used. Forms of direct address which call the readers to some sort of action are common, and often prompt them to compare the world as they know it with that as it used to be as in (27)-(30) below.

(27) Before television, you could count on a church mosaic for a hefty bit of drama. Tiny tiles of coloured marble and gold were put together to tell stories. (Lonely Planet *Not-for-Parents Rome*, p. 63)

(28) Entra nel Foro e cerca di immaginarlo com'era: splendido, maestoso e molto affollato! […] E poi, non esistendo la televisione e i giornali, chi voleva informarsi sulla vita della città, sulle leggi che venivano emanate, sullo svolgimento dei processi e l'esito delle battaglie, doveva venire nel Foro, passeggiare, ascoltare e… chiacchierare con tutti. [Enter the Forum and try to imagine it as it once was: wonderful, majestic and very crowded! […] Moreover, since television and newspapers didn't exist, those who wanted to be informed about life in the city, new laws, trials and on the outcome of battles had to come to the Forum, walk around, listen and… talk to people. (Edizioni Lapis *I bambini alla scoperta di Roma Antica*, p. 15)

(29) Track down these two complex designs. Keep a look out above your head and beneath your feet. […] When you find it, imagine the time it would take to carve and construct this without the use of today's power tools. (Viatores *Mission London*, p. 10)

(30) Il Foro Romano era il cuore della città antica. Luogo di incontro, di passeggio, di mercato, di sfilate, di cortei… insomma la piazza principale. [The Roman Forum was the heart of the old city. A place for gathering, walking, shopping, parades and processions… in other words, the main square] (Elekta Kids *Pimpa nell'Antica Roma*).

Children are invited to compare life at the destination with life at home.

(31) Rome is the capital of Italy and is famous for its history and beauty. You may notice things in Italy don't always look the same as they do where you are from. (Zig Zag City Guides *Rome*)

Word play is also frequently used in English guidebooks, whereas no similar examples were found in the Italian data.

(32) Rome was not built in a day, but the Coloseum was built in eight years. The work was finished in the year 80, and there was room for 50,000 people to sit inside and watch the gladiators fighting. (Universe Publishing *This is Rome*, p. 20)

Anchoring is often created through intertextuality. More specifically, guidebooks use fairy-tale-like narration and recognizable formulas typical of children's literature and nursery rhymes.

(33) Let's go right back to the beginning. Once upon a time there was a motherly she-wolf and two baby brothers called Romulus and Remus. […] According to the legend … (Universe Publishing *This is Rome*, p. 6)

(34) Tanto e tanto tempo fa, quando Roma ancora non esisteva, i pochi abitanti della zona … [A long, long time ago, when Rome didn't exist yet, the few people who lived in the area …] (Edizioni Lapis *I bambini alla scoperta di Roma Antica*, p. 14)

(35) Old Father Thames / London Bridge not Falling Down / Remember Remember the Fifth of November … / With an oink, oink here… (Titles of sections in Lonely Planet *Not-for-Parents London*)

Fairy-tale-like narration is more common in English guidebooks than in Italian guidebooks. In Italian, narrative passages have a more neutral register as in (36).

(36) Gli abitanti della Roma più antica vivevano sui colli ma in questa valle - chiamata Foro perché fuori dall'abitato – si riunivano per scambiarsi le merci, incontrarsi o discutere. [The people who lived in early Rome lived on the hills but in this valley – called Forum because it was outside the built-up area – they gathered to trade goods, meet and discuss] (Edizioni Lapis *A spasso per Roma*)

A unique feature of guidebooks for children in both English and Italian is game-like activities aimed at raising children's awareness about relevant aspects of the destination. They usually prompt reflection on the similarities and differences between "home" and the destination, or between past and present lifestyles. Thus, an introductory passage about London might be followed by questions such as "what is the capital city of your country?", "does it have a nickname?", "do any major rivers flow through your country's capital city?" and "what is the main language in your country?" (*Kids' Travel Guides London*). In some guidebooks, children are asked to spot the "odd object" in a picture. Illustrations usually include characters from older times with present-day items such a mobile phone or a wrist watch. Other activities are aimed at verifying that some complex concept has been understood. Some guidebooks include rebus-like activities where children have to read a passage in which some specialized lexical items have been substituted by images. This type of activity is meant to favour retrieval of newly learnt words and concepts through associative processes. In all these activities, the iconic apparatus has a fundamental role.

4.2.2 The Role of the Iconic Apparatus

Discussing in depth the role of the iconic apparatus in guidebooks (and in guidebooks for children in particular) would be outside the scope of the present publication and would undoubtedly exceed its limits. A few observations are, however, in order. Images play a decisive role in the popularization of specialized and culture-specific concepts in this genre. The latter is inherently multimodal: the role of colour, images and layout is just as (if not more) important than the text. Text and images cannot work independently. The visual apparatus engages young readers through various strategies exploiting a complementary relationship between codes and makes complex or new concepts more easily understandable. The younger the reader, the more difficult is the separation of linguistic and iconic resources.

Contrary to what was observed in guidebooks for adults, regardless of the language, guidebooks for children include both photos and illustrations. In materials for younger travellers there are only illustrations. In guidebooks for older kids (6 years old and older), photographs and drawings alternate. The latter are still prevalent, even though creative collage-like compositions make their appearance, where photos and illustrations are integrated (cf. Lonely Planet *Not-for-Parents* series).

The iconic apparatus accompanies and often integrates the verbal popularization strategies discussed above, as in the case of the rebus-like activities mentioned in the previous section. The analysis of the materials for children shows a coherent use of images in the data, which can be essentially grouped in three macrofunctions: explaining the text to make concepts more accessible, integrating the text by providing extra information in an immediately accessible way, and engaging the reader to focus his/her attention on relevant aspects of the attractions or the destination. In this sense, guidebooks for children exploit visual resources like other genres for children such as early non-fiction books (Mallet 2004a; Sezzi 2012).

5. Popularization Strategies in Translation. A Case Study

5.1. Translating Travel Guidebooks for Children

Popularization as a genre is still an under-researched area in translation studies (cf. Liao 2013: 131). While children's literature and its translation have recently received increasing critical attention, information books (i.e. non-fiction) for children (see Mallet 2004b), as well as their translation, have been largely neglected so far (O'Sullivan 2013: 459-460).[4] Many books are produced in English as international co-productions (see Dartige 2008, in O'Sullivan 2013: 460). They are addressed to an international market and often have a rather fixed multimodal layout (ibid.), factors which inevitably constrain the work of the translator. In fact, translators of popularized texts may face the challenge of translating genres that do not even exist in the target language, thus bringing about the emergence of a new genre altogether within the target culture (Liao 2013: 132). This indeed seems to be the case of travel guidebooks addressed to Italian children, a recent phenomenon especially proliferating since around 2010.

Bearing in mind the importance of accessibility in translating popularization (ibid.: 131), which is all the more important when dealing with products addressed to a young audience, Sections 5.2 to 5.5 propose selected examples from the qualitative analysis of a small and hybrid parallel corpus of guidebooks in English and Italian. The main focus of attention is on explanation strategies and anchoring references to the presupposed child reader/viewer's background, as well as on register and stylistic choices (also semiotic register; cf. Durant and Lambrou 2009: 13) contributing to engagement, so as to highlight possible translation shifts, trends and/or influences from the English 'model'. Indeed both the didactic function and creative appeal are important factors in children's literature (see for example Oittinen 2000), and, as mentioned in Section 1, edutainment permeates information books as well (Buckingham, Scanlon 2003). Also, the identification of divergent or 'migrated' stylistic conventions is important to achieve target-culture oriented equivalence in the translation of tourism discourse (see Manca 2012).

5.2 The Parallel Corpus

The texts taken into account involve hybrid directionality of translation, i.e. from English (as source text) into Italian (as target text) and, to a lower degree, from Italian into English. Partly different (English and Italian) destinations are also covered. The texts of the corpus were indeed chosen so as to reflect target readers of different age groups and, therefore their different degrees of development, in terms of encyclopaedic background, cognitive and emotional skills, and literacy level (Oittinen 2000). The data discussed were retrieved from the texts in Table 3.

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[4] Some noteworthy exceptions are Reiss (1982) and the more recent Sezzi (2012) on information books on history.

Tab. 3: Guidebooks for children included in the case study

Title	Publisher	English >> Italian
Usborne First Sticker Book London	Usborne	English
Libri con adesivi Londra	Usborne	English >> Italian
Not for Parents London	Lonely Planet	English
Vietato ai Genitori Londra	Lonely Planet	English >> Italian
Not for Parents Rome	Lonely Planet	English
Vietato ai Genitori Roma	Lonely Planet	English >> Italian
Pimpa va a Milano	Panini	Italian
Milan for Kids. A City Guide with Pimpa.	Panini	Italian >> English
Pimpa va a Firenze	Panini	Italian
Florence for Kids. A City Guide with Pimpa.	Panini	Italian >> English

The Usborne First Sticker book is ideally meant for preschoolers. The *Not-for-Parents* guidebooks are sophisticated multimodal products addressed to pre-teens and adolescents. The Panini guides are mainly addressed to juniors (esp. in their first years of primary school).

5.3 *Sticker Picture Books*

Even in the limited sample of the *London Sticker Picture Book* it was possible to identify some examples worth mentioning. The verbal code proposes brief instructions on how to complete the various pages featuring cartoon-style pictures of the main sights of the destination. The excerpt below is taken from the page showing Trafalgar Square. The strategy of replacement (see the underlined segments) at work in the target text can be viewed as an instance of recontextualisation presumably revealing different anchoring ideas of *fun* and *rain* in the two cultures:

(37) a. Nelson's Column towers high over Trafalgar Square. Stick on lots of people having fun in the rain. (pp. 12-13)
b. La Colonna di Nelson domina Trafalgar Square. Riempi la piazza di turisti e piccioni. (pp. 12-13)

In the next case, however, it is the verbal register used that displays variation, i.e. the Italian version is definitely more formal and accurate, where *imbarcazioni* 'watercraft, boats' is also more generic than *barche* 'boats' (thus covering all the different items depicted in the stickers), while *solcano* 'sail, plough' is a more specific collocation than *andare su e giù* 'go up and down':

(38) a. Stick on all kinds of boats going up and down the River Thames. (pp. 4-5)
b. Aggiungi le imbarcazioni che solcano il Tamigi. (pp. 4-5)

5.4 *Not-for-Parents* Guidebooks

The following examples come from the more complex *Not-for-Parents London. Everything you ever wanted to know*, where each double spread is devoted to a different aspect of the history, art and culture of the city through small paragraphs variously arranged on pages, as fragments accompanied by different types of images. The source text first introduces the subversive quality of the guidebook through a conspiring voice which uses a direct verbal address and contracted forms (*you'll*, *don't*). Below is the first line from the relevant page,

(39) a. THIS IS NOT A GUIDEBOOK. And it is definitely Not-for-parents. (p. 5)
b. QUESTA NON È SOLO UNA GUIDA DI VIAGGIO. Ed è assolutamente vietata ai genitori. (p. 5)

On the one hand, the source underlines the peculiar quality of the genre by stating what it is not; on the other hand, the target rather emphasizes the forbidden nature of its contents. The latter maintains the direct address but omits the contracted forms. Also, a local shift in assertive force can be found at the end of the same page (esp. notice the omission of the hedging adverb *probably* from the Italian version),[5]

(40) a. This book shows you a LONDON your parents probably don't even know about. (p. 5)
b. Un libro per scoprire una LONDRA di cui i tuoi genitori non sospettano neppure l'esistenza. (p. 5)

On the opposite page of the double spread, the photo of a Beefeater[6] faces the reader/viewer by looking directly into his/her eyes. This creates "a visual form of direct address"[7] which reinforces the direct verbal address (cf. *your*) in the balloon emanating from the character's mouth,

(41) a. I don't want your money. Just your beef! (p. 4)
b. Non voglio soldi, solo un po' di carne! (p. 4)

[5] This was not the only case of shift in assertive force in the text.
[6] A member of the ceremonial guardians of the Tower of London. The link between this figure and beef is probably obscure to most young (and old) Italian readers.
[7] "It acknowledges the viewers explicitly, addressing them with a visual 'you'" (Kress, van Leeuwen 1996: 122).

The direct address on the verbal level is weaker in the target text, possibly downplaying the receiver's engagement with the conspiring voice of the outset.

In fact, in the *Not-for-Parents* guidebooks different semiotic resources (real photos, colourful drawings of fictional characters and objects, balloons and the use of different font sizes and typefaces) complement one another in subtle ways and this interplay is sometimes exploited in translation. A case in point is the section devoted to Cockney. A photo features a man next to a woman, both dressed in clothes covered with pearl buttons, used by some people who raise money for charity (as aptly explained in a small paragraph on the same page). The man is looking towards the reader/viewer (another instance of 'visual you'), while the woman is talking on the phone inside a traditional red telephone kiosk. Two balloons enclose their words,

(42) a. (woman) Fancy a cup of Rosie Lee, Love? (p. 10)
(man) She loves a chat on the dog and bone (p. 10)

which can be made sense of thanks to image details (e.g., the woman is using the phone) and after reading the introductory section at the top of the page,

(43) a. PASS THE ARMY AND NAVY
Cockneys are people from London's East End who have a particular accent and use rhyming words as a way of life. When they go up the stairs they use 'apples and pears'. When they take a 'butcher's hook' they're having a look. So if you're asked to pass the 'army and navy', of course you'd pass the gravy. (p. 10)

The Cockney woman's real question, then, is probably 'Fancy a cup of tea, Love?', while the man, referring to her, actually intends to convey 'She loves a chat on the phone', although none of this is made explicit verbally in the source. In fact, the target text replaces the original words with less obscure ones which cohere with other text segments, cf. an intratextual reference to a Festival introduced further down (for the woman's utterance), and image details on the same page (cf. the elaborate attire of the male character),

(42) b. (woman) Ti aspetto all'Harvest Festival! (p. 10)
(man) Non mi piace passare inosservato… (p. 10)

A recurrent feature of this target text is the addition of metalinguistic explanations (e.g. definitions of foreign terms). They may cluster around untranslated words, as in (43b) (in italics in the original; also cf. the approximate translation *il sughetto dell'arrosto*),[8]

(43) b. PASSAMI IL GRAVY
I cockney abitano nell'East End di Londra e parlano con un accento caratteristico e in rima. Così le scale si chiamano *apples and pears*, che fa rima con *stairs*. Dare un'occhiata a qualcosa si dice *butcher's hook*, che fa rima con *look*. E se chiedono l'*army and navy*, ovviamente vogliono il *gravy* (il sughetto dell'arrosto). (p. 10)

The cases below show explanatory glosses as added translations in parentheses, in English in (44b), in Italian in (45b), where we can also find an example of added anchoring reference (*da cui il nostro Monopoli*, literally 'from which our Monopoli'),

(44) a. Bean there…
To start your day the London way, have some baked beans with your eggs, bacon, toast and tea. (p. 9)
b. Immancabili fagioli…
Vuoi iniziare la giornata in autentico stile londinese? Non farti mancare uova, bacon, pane tostato, tè e una porzione di fagioli stufati (*baked beans*). (p. 9)

(45) a. ROLL THE DICE…
So many people grow up learning about London from the board game Monopoly! The game was invented in the United States by Elizabeth Magie. She called it 'The Landlord's Game' because it showed how unfair and unbalanced the world can become when one person owns all the property. The name was changed to Monopoly, meaning total control by one person or company. (pp. 82-83)
b. TIRA IL DADO…
Quanti hanno imparato a conoscere Londra grazie al Monopoli! Questo gioco da tavolo fu inventato negli Stati Uniti da Elizabeth Magie, che lo chiamò *The Landlord's Game* (il gioco del padrone), perché dimostrava quanto potesse essere ingiusto e instabile il mondo quando tutto appartiene a una sola persona. Il nome fu poi cambiato in Monopoly (da cui il nostro Monopoli), che significa controllo totale da parte di un individuo o di un'azienda. (pp. 82-83)

A peculiar example is offered by the double spread on the history of the British Monarchy, where different talking portraits of members of the royal family speak to the reader through balloons, cf. for instance

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[8] The translation of the title of the section in (43b), too, can be regarded as an explanation which reveals the meaning of the enigmatic title of the source.

(46) a. (Henry VIII is speaking) We had six wives
(Elizabeth I) We owned 3000 dresses!
(Edward VIII) We gave it up to marry the woman we loved
(uttered by the statue of Oliver Cromwell, looking directly into the reader/viewer's eyes) I got rid of 'em for eleven years (pp. 14-15)

The Italian version obliterates the register connotations and register contrast (i.e. the use of the royal 'we' or majestic plural on the part of royal members vs. the 'lower' accent of Oliver Cromwell represented graphically), [9] thus flattening voice characterization and correlated jocularity/entertainment,

(46) b. (Henry VIII) Ho avuto sei mogli
(Elizabeth I) Possedevo 3000 abiti!
(Edward VIII) Ho abdicato per sposare la mia amata
(Oliver Cromwell) Me ne sono sbarazzato per 11 anni (pp. 14-15)

On the same spread, the paragraph on Oliver Cromwell (p. 15) is entitled

(47) a. A Right Royal Pain
b. Un emerito scocciatore

and this is just one of the many cases of alliteration in the source undergoing deletion in the target text. Indeed, alliteration, rhyme, wordplay (including idiomatic wordplay), allusions to children's songs, games, folk verse and other literary works are widespread in the original, especially in titles of sections and of smaller paragraphs. They can be viewed as intertextual anchoring references evoking memories of familiar poetic devices, tunes and references in the target reader and it may be quite difficult to translate the whole or even part of their expressive import into another language (see Epstein 2012). As a matter of fact, they are often lost in translation, with consequent obliteration of engaging sound-symbolic effects and anchoring function. Here are some more examples of alliterative and rhyming titles (and balloon contents) of the source and their Italian versions (notice the almost opposite meaning of the first in the list, cf. *ingorghi fluviali* 'river obstructions' vs. *a flowing freeway*, where alliteration of fricative sounds contributes to the idea of continuous motion):

[9] On the difficulty of translating dialect in children's literature see Epstein (2012).

(48) a. A flowing freeway (p. 6)
b. Ingorghi fluviali (p. 6)
(49) a. Pick your punk (p. 32)
b. E tu che punk sei? (p. 32)
(50) a. Jurassic Classics (p. 24)
b. Roba da Giurassico (p. 24)
(51) a. Doing more for the Dinosaur (p. 25)
b. Tutto per i dinosauri (p. 25)
(52) a. I'm a Viking with a liking for striking (p. 28)
b. Chiamatemi Vichingo il devastatore (p. 28)

Below are some examples involving different types of wordplay (also see the title in (44a) above):

(53) a. Hole lot of hard work (introducing a small paragraph on the earliest tunnels of the Underground) (p. 23)
b. Scudo protettivo (referring to the tunnelling shields later used to build tunnels below ground, mentioned in the same paragraph) (p. 23)
(54) a. A twist in the tale! (title of paragraph mentioning Charles Dickens' Oliver Twist) (p. 11)
b. Trama a sorpresa (p. 11)
(55) a. Fair enough (title of paragraph mentioning George Bernard Shaw's Pygmalion and the movie version My Fair Lady) (p. 11)
b. A scuola di buone maniere (p. 11)
(56) a. Give us a ring (referring to the ringing bells of St Mary-le-Bow, i.e. only Londoners born within hearing distance of those church bells are said to be true Cockneys) (p. 11)
b. Cockney doc (creative replacement with Italian acronym for the designation of wine origin) (p. 11)

Original idiomatic phrases may be used untouched or partly changed and adjusted to context:

(57) a. You're talking in circles again! (in a balloon emanating from a photo of the Whispering Gallery, in St. Paul's Cathedral) (p. 29)
b. Abbassa la voce! (p. 29)
(58) a. The Haves and Have Yachts (clearly reminiscent of the haves and have-nots) (pp. 68-69)
b. Ricchi e Straricchi (pp. 68-69)

Visual cues are usually an important contribution to interpretation,

(59) a. I'm the best – no bones about it! (in a balloon attributed to a cartoon-style image of Shakespeare holding a skull) (p. 46)

b. Nessun dubbio: sono io il più bravo (replacement of idiomatic wordplay of the original with allusion to Hamletic doubt) (p. 46)

Literary and folk verse allusions are sometimes preserved in translation, as in (60b), lost, as in (61b) or retained in the form of borrowing in (62b) (but translated in the body of the paragraph):

(60) a. Journey to the Centre of the Earth (p. 22-23)
b. Viaggio al centro della Terra (pp. 22-23)
(61) a. What's in a Name? (p. 92)
b. Storia di un nome (p. 92)
(62) a. Old Father Thames (p. 6)
b. Old Father Thames (p. 6)

The case below, however, shows a replacement of an idiomatic expression with an Italian literary allusion, possibly as a form of compensation:

(63) a. It's a small world (introducing a small paragraph on Queen Mary's miniature Dolls' House) (p. 66)
b. Piccolo mondo antico (rather than, for instance, *Il mondo è piccolo* or *quant'è piccolo il mondo!*) (p. 66)

The following examples illustrate further references to children's folklore along with different translation strategies, i.e. functional replacement (64b), compensation (65b), and retention in (66b) and (67b) (although the latter might be challenging for pre-teens in particular, such choices could be viewed as an attempt to move the reader closer to the foreign culture):

(64) a. I Spy the London Eye (p. 12)
b. Vedo, vedo… il London Eye (p. 12)
(65) a. Around the world (p. 58)
b. Giro giro tondo (p. 58)
(66) a. London Bridge not Falling Down (p. 64)
b. London Bridge not Falling Down (p. 64)
(67) a. Remember Remember the Fifth of November… (p. 84)
b. Remember Remember the Fifth of November… (p. 84)

Similar cases can be found in *Not-for-Parents Rome*. Notice the functional replacement in (68b) and the more creative substitution in (69b):

(68) a. With an oink, oink here… (introducing the habit of people bringing their pets and farmyard animals to Rome to be given a blessing by a priest) (p. 20)
b. Nella vecchia fattoria, ia-ia-o… (p. 20)

(69) a. The Pet Set (introducing Roman cat-loving women or *gattare*) (p. 20)
b. 44 Gatti in Fila per Sei… (p. 20)

In many cases, this different destination brings about the need for adjustments in the Italian target text, obviously addressing a more knowledgeable audience than that of the source. In the next example, the metalinguistic information of the source is replaced with a deictic reference to a photo of the crypt of the Capuchin monks (*Cripta dei Cappuccini*, underneath the church of *Santa Maria della Concezione*) on the same page:

(70) a. Frothy Friars
The monks got the name Capuchin from wearing a hood called a *cappuccino*. In Italian if you add '-ino' to the end of a word you make it mean 'small' so cappucc-ino is a small hood. Think about that next time you see someone sipping on a frothy coffee… (p. 16)
b. Frati e Schiuma
La prossima volta che berrai un cappuccino, penserai a questa cripta da brividi? (p. 16)

A recurrent strategy also consists in replacing the metalinguistic (or other) information of the source which is already part of the Italian readers' background with different historical/cultural details (see underlined parts):

(71) a. Graffiti is the Italian word for scratches. Scratched graffiti was made in ancient times (p. 60)
b. I graffiti hanno un'origine antichissima. <u>A Pompei, per esempio, ne sono stati trovati tantissimi</u> (p. 58)
(72) a. Granita
Gelaterias also sell granita – crunchy ice crystals that have been flavoured, often with fruit. A granita mixture has to be regularly stirred (p. 91)
b. Grattachecca
<u>A Roma la granita si chiama grattachecca</u>, e consiste in un composto di ghiaccio e sciroppo che va mescolato di continuo (p. 89)

In the next case too, the target text displays added information (*storie narrate nella Bibbia* 'stories narrated in the Bible') along with a simile hinging on *antichi fotoromanzi* ‘old photo story books’, which proves to be a more remote and impersonal anchoring reference than *television* (and a straightforward physical description of the mosaic tiles) of the source text,

(73) a. Wall-to-wall drama
Before television, you could count on a church mosaic for a hefty bit of drama. Tiny tiles of coloured marble and gold were put together to tell stories (p. 63)
b. Dramma a schermo intero (p. 61)
I mosaici sono come antichi fotoromanzi: raccontano per immagini e a volte con qualche fumetto vicende storiche e storie narrate nella Bibbia

Finally, in the example below, the Italian version adds more specific and positive information in contrast with the hardly edifying portrayal of Roman habits in the source text,

(74) a. WHAT RUBBISH!
In the oldest parts of Rome where the streets are paved, fast food wrappers and cigarette butts stare up at you from between the cobblestones. In the outer areas, the rubbish lines the streets. But then leaving litter is an ancient Roman custom. Ancient Roman would dump their rubbish in piles in the streets or even throw it out of their windows. There are still mounds that remain to this day that are mainly made up of broken bits of pottery. (p. 30)
b. CHE IMMONDEZZAIO!
La Roma antica era una grandiosa città densamente popolata e i romani, che andavano matti per l’ingegneria, costruirono le fognature: canali sotterranei dove scorreva una grande quantità d’acqua che trasportava via i rifiuti. Questo non significa che Roma fosse una città pulita secondo i nostri standard moderni: la gente non perdeva la pessima abitudine di buttare il contenuto dei vasi da notte dalle finestre o di lasciare l’immondizia per strada. Il Monte Testaccio, a Roma, non è un monte vero e proprio ma una discarica dell’antichità ora ricoperta d’erba. È fatto di anfore che arrivavano dall’Africa piene d’olio che portano ancora sulla superficie la data, il nome del produttore e i segni dei controlli che venivano fatti alla partenza e all’arrivo. (p. 30)

5.5 Travelling with *Pimpa*

The overall layout and verbal style of the ‘*Pimpa* guidebooks’ are definitely less elaborate and more linear. In this case, the Italian versions were the source texts and the English ones the target. Overall, fewer instances of direct address are present in the Italian versions than in the

English one.[10] A recurrent translation strategy is the addition of explanations (and instructions in (75b)) in the form of (not only) metalinguistic information (see underlined segments):

(75) a. IL BISCIONE ERA IL DISEGNO PREFERITO DEL DUCA. RAGGIUNGI IL CASTELLO: QUANTI BISCIONI RIESCI A VEDERE SULLE MURA? (*Pimpa va a Milano*, p. 3)
b. THE SNAKE WAS THE DUKE'S FAVOURITE SYMBOL AND APPEARED ON HIS COAT OF ARMS. GO TO THE CASTLE AND LOOK CAREFULLY AROUND THE WALLS… HOW MANY SNAKES CAN YOU SEE? (p. 3)

(76) a. A PALAZZO VECCHIO SI INCONTRAVANO I SIGNORI DI FIRENZE: PER QUESTO LA GRANDE PIAZZA SI CHIAMA PIAZZA DELLA SIGNORIA. È UN VERO MUSEO ALL'APERTO CHE CON LE SUE MAGNIFICHE STATUE MOSTRA A TUTTI LA RICCHEZZA DELLA CITTÀ. (*Pimpa va a Firenze*, p.4)
b. THE NOBLES OF FLORENCE USED TO MEET AT PALAZZO VECCHIO. THE BIG SQUARE IN FRONT OF THE PALACE IS CALLED PIAZZA DELLA SIGNORIA, WHICH MEANS "SQUARE OF THE NOBILITY". THE SQUARE IS LIKE AN OPEN AIR MUSEUM! ITS MAGNIFICENT STATUES SHOW JUST HOW RICH THE CITY USED TO BE. (p. 4)

Syntax appears to be more fragmented (presumably to enhance readability) in the English target text.

(77) a. TANTI ANNI FA, COLPITA DA UN FULMINE, LA PALLA DORATA IN CIMA ALLA CUPOLA È CADUTA: CHE SPAVENTO! DIETRO IL DUOMO SCOPRI IL TONDO BIANCO CHE SEGNA IL PUNTO DEL TERRIBILE SCHIANTO SUL PAVIMENTO DELLA PIAZZA. (*Pimpa va a Firenze*, p. 7)
b. MANY YEARS AGO, THE GOLDEN BALL ON TOP OF THE DOME WAS STRUCK BY LIGHTENING AND FELL OFF. WHAT A FRIGHT! SEARCH FOR A WHITE CIRCLE ON THE GROUND BEHIND THE CATHEDRAL. THIS MARKS THE SPOT WHERE THE HUGE BALL FELL. (p. 7)

In the English versions we can also find different instances of explicitation, sometimes in the form of more extended similes or non-figurative uses replacing metaphors or personification (see (79b) and (80b) respectively).

[10] The latter also displayed a lower number of contracted forms than in the *Not-for-Parents* guidebooks.

(78) a. I MEDICI, FAMIGLIA DI DUCHI, CAVALIERI E REGINE, SONO STATI PER MOLTI ANNI I VERI SIGNORI DI FIRENZE. (*Pimpa va a Firenze*, p. 8)
b. THE MEDICI WERE A FAMILY OF DUKES, KNIGHTS AND QUEENS. THEY WERE THE RULERS OF FLORENCE FOR MANY YEARS. (p. 8)

(79) a. IL GIGANTESCO "CAPPELLO DEL DUOMO", LA GRANDE CUPOLA ROSSA, ATTIRA LO SGUARDO FIN DA LONTANO. È SANTA MARIA DEL FIORE, LA CHIESA PIÙ IMPORTANTE DELLA CITTÀ. (*Pimpa va a Firenze*, p. 6)
b. THE GIGANTIC CUPOLA ROSSA, OR RED DOME, SITS ON TOP OF THE CATHEDRAL LIKE A BIG HAT. YOU CAN SEE IT FROM MILES AWAY. THE CATHEDRAL OF SANTA MARIA DEL FIORE IS THE MOST IMPORTANT CHURCH IN FLORENCE. (p. 6)

(80) a. IN VIA DELLA NINNA, SUL MURO LATERALE, UNA PORTA SEGRETA NASCONDE UN PASSAGGIO PER USCIRE DAL PALAZZO SENZA ESSERE VISTI. IL MUSEAO DEI RAGAZZI ACCOMPAGNA I PICCOLI E I GRANDI VISITATORI A SCOPRIRE QUESTO E ALTRI PERCORSI CHE, ATTRAVERSO PASSAGGI SEGRETI, RACCONTANO LA MERAVIGLIOSA STORIA DI FIRENZE. (*Pimpa va a Firenze*, p. 3)
b. A SECRET DOOR IN THE WALL OF VIA DELLA NINNA HIDES A PASSAGE YOU CAN USE TO GET OUT OF THE PALACE WITHOUT BEING SEEN. STAFF OF THE MUSEO DEI RAGAZZI CAN TAKE YOUNG AND ADULT VISITORS TO DISCOVER THIS AND OTHER SECRET PASSAGES AND LEARN ABOUT THE WONDERFUL HISTORY OF FLORENCE. (p. 3)

The excerpts below highlight different cultural anchoring references. In (81a) and (81b) distinct images are recruited to describe the top of a tall building (both of them had been mentioned earlier in the texts, i.e. *guglie/spires* a few pages before, and *grattacieli/skyscrapers* on the opposite page), and the Italian version once again uses a more elaborate image than the English text.

(81) a. OGGI UNA GUGLIA MODERNA TOCCA IL CIELO DI MILANO. È IL PENNONE DELLA TORRE CESAR PELLI CHE IN OCCASIONI SPECIALI SI ILLUMINA E BRILLA NELLA NOTTE. (*Pimpa va a Milano*, p. 15)
b. THERE'S A NEW SKYSCRAPER IN MILAN NOW. IT'S CALLED THE TORRE CESAR PELLI. ON SPECIAL OCCASIONS THE TOP OF IT LIGHTS UP TO BRIGHTEN UP THE NIGHT. (p. 15)

In (82a) we have a more emotively involving image which hinges upon family tradition, while the English target text proposes a more generic and detached replacement:

(82) a. PAN MEJN È UN BISCOTTO CHE I NONNI PREPARAVANO CON UNA SPECIALE FARINA: LA FARINA DI MIGLIO (*Pimpa va a Milano*, p. 30)
b. PAN MEJN ARE BISCUITS THAT PEOPLE IN MILAN USED TO BAKE USING A SPECIAL FLOUR CALLED MILLET FLOUR. (p. 30)

6. Concluding Remarks

Despite the limited size of the corpora, data revealed that a number of popularization strategies are used in English and Italian guidebooks for adults and for children. We can therefore conclude that due to their leading and mediating function, guidebooks contribute to knowledge dissemination and their discourse can be interpreted in terms of popularization. In order to make terminology from various specialized domains (e.g., art) and culture-specific concepts (e.g., Cockney rhyming slang) easily understandable for their intended readers, they promote the integration of stored knowledge and new information through verbal and multimodal resources. English and Italian guidebooks for adults share the same aims and resort to the same strategies. However, in line with the findings on cultural orientations, the two lingua-cultural systems seem to differ in several respects. Italian guidebooks are characterized by a more formal register: they present information in a factual style and provide references to authoritative and reliable sources. Terminology is often left unexplained, as if the ideal reader was supposed to have some previous knowledge of the relevant concepts which might be necessary to interpret the sights at the destination (e.g., basic knowledge of architectural terminology or of local history). The reader is not engaged. There are few direct forms of address and always in the plural form (e.g., *voi*), very few explanatory images or illustrations and no instances of humour. Anchoring to the reader's experience, on the other hand, is pervasive. Conversely, English guidebooks are characterized by informality, a high level of engagement of the reader and a strong integration of different semiotic codes to assist and guide the intended readership as much as possible. No specific pre-existing knowledge seems to be expected.

These differences could be interpreted both in terms of preferences for different communicative strategies and in the broader perspective of cultural orientations. It is possible that, in order to create and enhance accessibility to new information, English chooses to rely on the strong integration of various semiotic codes. Italian, on the other hand, seems to prefer detailed verbal anchoring to the reader's background knowledge and experience. The communicative choices discussed might be responsible for the impression that Italian guidebooks have a formative function, evidenced by the greater accuracy with which information is presented, both in terms of terminological choices and supporting evidence. Edutainment, on the other hand, seems to be the main aim in English guidebooks. These differences, however, could also be interpreted as further evidence in favour of the cultural orientation preferences mentioned in Section 2. Manca (2016, forthcoming) underlines that when it comes to tendencies towards Hofstede's (2001) Action orientation, the English culture is oriented towards Doing, whereas the Italian culture is oriented towards Being. This may be reflected in a different attitude towards cultural activities themselves such as sightseeing or visiting museums: an edutainment opportunity for the English traveller and a true learning opportunity for the Italian traveller.

The differences in the two languages almost disappear in guidebooks for children. If we exclude the few occurrences of specialized vocabulary items found in the Italian data and the many instances of humour in the English data, the strategies found in the comparable corpus are, overall, equivalent in form and function. This makes guidebooks for children in Italian very different from those for adults, and a very innovative genre in the national editorial panorama, more similar to non-fiction books for young readers (e.g., history information books; cf. Sezzi 2012) than to guidebooks. Several factors could be responsible for this. It is reasonable to assume that the cognitive and psychological features of the intended readership shape the genre in a dramatic fashion: children of the same age will share the same developmental characteristics regardless of their native language. It is, however, also possible that, in order to fill a void in the market, the Italian publishing industry has taken inspiration from well-established editorial products available in the English-speaking countries or commissioned translations of English materials. Whatever the reasons, the result is that in this sub-genre the lingua-cultural differences between English and Italian appear to be sensibly reduced.

In spite of the limited size and heterogeneous composition of the parallel corpus, the case study on the translation of guidebooks for children seems to provide support to these hypotheses. The analysis has highlighted some interesting recurrent patterns: i.e. a varied range of reformulation interventions, mainly through the addition of metalinguistic explanations, and recontextualisation through different types of replacements.

Substitution often brings about some loss, as in the case of intertextual anchoring references involving alliteration, rhyme and wordplay in the *Not-for-Parents* guidebooks, although some creative examples of compensation can be found too. In the translated popularization of Rome to Italians, recontextualisation is widespread in the form of added historical/cultural details replacing metalinguistic or other information of the source which is already part of the target audience's background. Even the complementary relation between different semiotic codes is sometimes exploited as a cue for translation solutions.

Moreover, the Italian versions (esp. as target texts addressed to pre-teens and adolescents) display some degree of direct address, possibly because of the influence of the English model; however they appear to involve a lower degree of directness and a more formal, and at times elaborate, style than the English versions here analysed. More data in electronic format are obviously needed for corroborating and expanding on these findings on a quantitative basis.

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CHAPTER NINE

GO ON AN ART ADVENTURE: POPULARIZING ART FOR CHILDREN THROUGH MUSEUM WEBSITES

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Abstract: Freed from its elitist connotations, art has recently become a key focus in children's non-fiction. Books on artists' lives and art movements proliferate in the market addressed to children, thus opening the doors of art history to very young aesthetes. Conversely, art in the World Wide Web is still mainly limited to "arts and crafts activities" for kids. This tendency seems to be exceptionally overridden by a counter-tendency led by few museums and galleries. As a matter of fact, museums are no longer "cultural islands" but active cultural agents (Bondi 2009) that market and popularize themselves through their websites. With regard to children, most museum websites briefly present workshops and events they organize for children with a marketing intent (Sabatini 2017). However, few of them offer online materials and sections explaining the art and life of the protagonists of their collections, hence relegating the promotional discourse in the background and giving prominence to art popularization. An interesting case is *Tate Kids*, the website of the *Tate Gallery* family entirely dedicated to children. In the context of research on specialized knowledge dissemination to adults (e.g., Ciapuscio 2003; Calsamiglia, van Dijk 2004) and children (e.g., Myers 1989), we shall therefore concentrate on the different strategies that Tate Kids adopts in order to market itself and, most importantly, to disseminate art knowledge among children, who do not only lack specialist knowledge but also have a different stage of cognitive development (Myers 1989).

1. Introduction

Popularization for children implies the same reformulation and a recontextualization of expert discourse as the one targeted to lay adults

(Calsamiglia, van Dijk, 2004: 371; Gotti 2014). Due to specific limited background knowledge and cognitive abilities of this specific lay audience, it seems to be difficult to bridge the "gulf" (Myers 2003) between experts and non-experts. Yet, top-to-bottom knowledge transmission should be discharged (Myers 2003; De Marchi 2007). By the same token, as De Marchi (2007: 27) observes, if codes and concepts must inevitably be simplified in popularization for youngsters because their cognitive and linguistic skills are not completely developed, they should not be reduced to trivialization or banality.

In relation to museum discourse, the starting point is the awareness that "[m]useums are not mere repository of cultural products: they are fully active cultural agents, trying to realize their basically educational aims in a rapidly changing cultural market" (Bondi 2009: 113). Besides brochure descriptions, catalogue entries, wall texts, and other texts (Ravelli 2006), their role in disseminating art knowledge is also evident in their websites (Bondi 2009).

When dealing with the relationships between museums and children, the situation seems to be more complicated. Popularization for children is in fact characterized by a unique combination of education and entertainment, termed *edutainment*. This blend of "fun" and "information" can be risky, as Sabatini (2017: 66) observes when investigating museum discourse connected to children:

> [The] co-construction of knowledge through children's engagement can be dazzling but, at the same time, boil down to "fun but forgettable". In fact, mothers' blogs, for example, and some web pages from children's museums, seem to indulge in hyperbole and to long for offer marvels, coming close to show-business and advertising discourse, where children are often used as "actors" in a kind of spectacularization.

For museum websites, the promotional factor should be also considered. Within this context, Tate Kids, the Tate Gallery's website for children, appears to be a significant case. Actually, this combination seems to be particularly effective in rendering modern art – sometimes obscure – comprehensible to children.

Section 2 will thus describe briefly edutainment websites for children and their characteristics; section 3 will focus on materials and methods. Section 4 concentrates on the discursive practices exploited by Tate Kids. Very broadly, we shall see that they overlap with the popularization strategies generally adopted in popularization for adults (Garzone 2014; Gotti 2014).

2. Edutainment Websites for Children

Edutainment (or *infotainment*) is a term coined by Bob Heyman (Aksakal 2015). It refers to websites aimed at children because “they aim to both educate or inform and entertain their overt audience – children” (Djonov 2008: 217). More specifically, edutainment – that is, the union of education and amusement – “came into common use in the 1990s with the appearance of ‘multimedia’ personal computers” (Michael, Chen 2006: 24). Primarily related to videogames with educational goals (Susi, Johannesson, Backlund 2007: 2), the term also covers a wide variety of products, including television programs, films, music, websites and multimedia software (Colace, De Santo, Pietrosanto 2006), all relying on the visual code, narratives and games, and on an informal language (Buckingham, Scanlon 2001, 2005) and all having a double focus.

As far as edutainment websites for children are concerned, they are nowadays one of the primary vehicles to disseminate knowledge among children, implying a more tailored, “constructivist” approach to learning (Okan 2003, 2011; Buckingham, Scanlon 2004). In fact, they establish a one-to-one medium-user relationship that creates an appealing and motivating learning environment (Okan 2011: 1081), often supported by games, the involvement of different senses (ibid.: 1081), the use of different semiotic modes (Maier 2008: 59) and of different popularizing strategies. Through their participation and involvement with digital technology and gaming, children are becoming a critical factor in the future survival of their cultural heritage.

In particular, this paper will explore how art is recontextualized in a website expressly designed for children, *Tate Kids* (https://www.tate.org.uk/kids),[1] which has a triple objective: educational, entertaining and promotional. Since the educational goal is at the basis of the others, the analysis will be mainly focused on the discursive practices adopted to popularize knowledge, yet without neglecting their multimodal and promotional nature.

3. Materials and Methods

The methodology used for the analysis is based on Calsamiglia and van Dijk’s classification of five “types of explanation” (2004: 372). The first one is *denomination* or *designation*, whereby new terms are

[1] With the exception of the screenshot in Figure 1, all Tate Kids (sub)directories were last accessed on 1 February 2018.

introduced indicating their specialized denominations: "The gigantic DNA is composed of millions of small compounds *called bases*" (ibid.: 381).

Definition, which is strictly linked to denomination, implies the explanation of unfamiliar words through the description of some properties or components of the thing being referred to: "DNA sequencing, *the process of determining the exact order of the 3 billion chemical building blocks*" (ibid.: 375).

Reformulation or *paraphrase* is the third strategy. It is usually accompanied by appositions, parentheses, dashes, quotes and metalinguistic expressions. The example given is: "Living beings are composed of thousands of microscopic machines (*the proteins*)" (ibid.: 383). As Calsamiglia and van Dijk underline, this kind of explanation "establish[es] a link between old and new knowledge, where usually a new notion is introduced first, followed by an explanatory reformulation or paraphrase".

Conversely, *exemplification*, the fourth strategy, offers specific examples of general phenomena, "such as mentioning Alzheimer's as one of the diseases that might be better understood now that the human genome has been sequenced" (ibid.: 383). Instances and examples are easily remembered. Thus, they are useful as a popularizing strategy.

The fifth explanatory device is *generalization*. General conclusions are drawn from specific examples "and thus is a discursive manifestation of learning" (ibid.: 383), as in the following sentence: "Reduced to the principle of things, all living beings, from worms to humans, share the same elementary organization, the same geometry, an exact tiny harmony" (ibid.: 384).

Additionally, there are discursive practices that work on a cognitive level. They are classified under the label *analogy* or *association* (ibid.: 376) and involve a comparison with objects that are cognitively familiar to the layman or easily understandable, as in similes or metaphors.

The analysis aims at exploring the presence of these discursive practices in the case of Tate Kids, and whether or not they are associated to other popularizing strategies.

3.1 Modern Art for Children: *Tate Kids*

The *Tate Gallery*'s website (https://www.tate.co.uk; embracing the four Tate Galleries in England – *Tate Britain*, *Tate Modern*, *Tate Liverpool*, and *Tate St. Ives*) is one of the most noteworthy art museum websites (Smith Bautista 2013: 202). Yet, the online Tate is outclassed by its parallel webpages, respectively *Young Tate* and *Tate Kids*, addressed to young people aged 13 to 25 and to children aged 4 to 12 years old (Smith Bautista 2013: 203). Almost covering all youth age range, these two websites were designed after having observed that *Tate Online* for adults was hardly visited by these age categories (Cardiff 2007; Jackson, Adamson 2009).

In particular, *Young Tate* is an “umbrella term for the youth programme across all four gallery sites, as well as a dedicated online space” (Sinker 2008): *Tate Modern’s Project*, *Raw Canvas*, and the *Collective of Tate St. Ives, Tate Liverpool and Tate Britain* “that offers an online community for youth” (Smith Bautista 2013: 203). Actually, the Young Tate website (http://www.tate.org.uk/tate-collective) is conceived and run by young people, the *Tate Collective* team, whom can be joined by other youths. It has thence a participatory essence. The young art amateurs “can create, experiment and engage in-gallery and online with Tate’s collection, galleries and exhibitions” (https://www.tate.org.uk/tate-collective/team).

Tate Kids, we have seen, is especially intended for children. It fits the aims and scope expressly stated in the Tate website’ section OUR PRIORITIES (http://www.tate.org.uk/about-us/our-priorities). As Jackson and Adamson (2009) emphasize,

> Tate’s mission [is] ‘to increase public knowledge, understanding and appreciation of art’ by the creation of a colourful, relevant, interactive Web site with engaging content that would both entertain and educate the intended audience of six to 12 years old.
> (http://www.archimuse.com/mw2009/papers/ jackson/jackson.html)

Children can create and share their own gallery of works, play quizzes and interactive games that familiarize the players with different art techniques, watch videos, read about artists and art movements, or download activities such as “Make a Venetian Mask”.

4. Analysing an Art Adventure

The analysis will be focused on the more educational macro-section of *Tate Kids*: EXPLORE (https:// https://www.tate.org.uk/kids/explore). It can be accessed to from the header and menu bar at the top of the homepage that links also to the sections MAKE (https:// https://www.tate.org.uk/kids/make) and GAMES AND QUIZZES (https:// https://www.tate.org.uk/kids/games-quizzes). All data for analysis was downloaded on 8 May, 2018. At that time, the layout of the homepage is consistently replicated in all three sections, which display a horizontal structure in line with the homepage. In particular, just below the header bar, there is a looping short presentation video-clip with a superimposed catchphrase serving as a title for the page. Again, below the video, the content area is horizontally divided into bands characterized by lively and stylized drawings with bright colours. The typeface used is the Tate's typical font, i.e. the one also used for the Tate logo. Indeed, since the logo and the typeface are part of the "global brandscape" (Pierroux, Skjulstad 2011: 206), this serves as

> a multimodal tool through which the museum's public image is composed, developed, and communicated to increase tourism, among other aims", they are essential for the creation of Tate's corporate identity and for the "[…] policy of inclusion that characterizes TG promotion, aiming at appraisal and identification […]". (Sabatini 2015: 113)

With regard to the EXPLORE section, the clip immediately reveals the importance of the visual mode. As Bondi (2009: 113) underlines, "[t]he centrality of visual perception in art appreciation provides the obvious justification for the role played by the visual mode in museum web texts". As a matter of fact, the main title characterizing the website, *Go on an art adventure*, is overlaid on a video showing a close-up of a child's eyes pointing upwards, with childish colourful drawings of abstract forms floating around. The reference to the visual component of the learning process combines with another typical element of websites dedicated to children, that is, the metaphor of learning as an adventure or travel (Buckingham, Scanlon 2004; Stenglin, Djonov 2010) and, in particular for art, as an "educational adventure about art" (Stenglin, Djonov 2010: 187).

In the following paragraph, the subsections WHO'S WHO? and WHAT'S THAT? will be investigated. The links to these pages are found scrolling down the screen within the corresponding band – which already shows some of the topics of the EXPLORE section in white frames, with a picture and a title that epitomize the content (see, e.g., Fig. 1: WHO's WHO). There is also the icon of a palette, which signals the pages as informative.

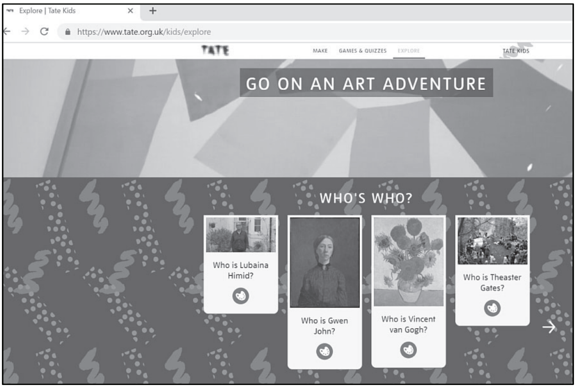

Fig. 1: https://www.tate.org.uk/kids/explore: WHO'S WHO?

4.1 WHO'S WHO? and WHAT'S THAT?: The Role of Questions

The subsections under analysis – WHO'S WHO? and WHAT'S THAT? – are dedicated to the art movements (Surrealism, Op Art, Pop Art, Sound Art and Impressionism) and to the artists (fifty-two, from Claude Monet to the Guerrilla Girls), whose works are shown in the gallery. They describe and explain the artists' life, their more important works of art, their techniques and the art movements they embraced or founded.

The titles immediately disclose one of the popularizing strategies adopted, that is, recourse to questions, a common strategy of popularization for children (Sezzi 2015, 2017; Diani 2015, in press; Silletti 2017). More specifically, there are different types of questions within the texts. If the questions of the titles of the two macro-sections evoke trivia games, only few in the texts have the structure of fun-fact questions. Already identified in other websites designed for children (Silletti 2017), these questions, beginning with *Did you know…?*, have a specific engaging function, but they also convey information, their answer being already given in the questions:

(1) Did you know this guy was a member of a secret society?
(2) Did you know that the artist William Blake once saw angels in a tree in a London park called Peckham Rye?
(3) But did you know that you can also listen to art?

However, the majority are *wh- and how*-questions. Each title in the micro-section pages dedicated to the artists or art movements is a question (for instance, *Who is Joan Jonas?*). So are the titles of the subsections (*Who is she?*; *What is she famous for?*; *What's it all about?*). These questions shape the structure of the texts, following somehow the "traditional classroom discourse structure", as, for example, in online games (Stenglin, Djonov 2010: 205). They arouse children's curiosity and attention (Webber 1994) and simultaneously serve a pedagogic/didactic purpose. In fact, by referring to Hyland (2002), Diani (in press) suggests the inherent connection between this popularizing strategy and the function of *wh*-questions: since they express "an imbalance of knowledge between participants, [they help] to construct readers as learners, and learning as a one-way transfer of knowledge" (2002: 535) from expert to non-expert.

The third category of questions posits the users not as "learners", but as "art critics" or "artists". In fact, children's opinions are asked:

(4) Damien Hirst has said 'art's about life, and it can't really be anything else'. *What do you think? Do you agree?*
(5) *What do you think* of Dalí's artwork? *Is it* funny, weird ... scary?
(6) *What do you think* of Turner? *Do you agree* that he was ahead of his time and was one of the first modern artists?

This appears to be another frequent strategy in popularization for children. For example, in science information books young readers are sometimes textually and visually construed as "scientists" in the interaction between children and science (Bell 2008).

The multimodal component is also fundamental in children's popularizing products. This seems to be truer for museum websites (Bondi 2009). Indeed, the educational pages are interspersed with the photographs of artworks and of the artists, so that the users can be deictically invited (7: *Here is*) to look at, analyse, compare, and interpret the pictures by means of questions and verbs of perception such as *look* (7: *look at*) and *see*:

(7) *Here is* Paul Nash's *Landscape from a Dream* 1936-8. *What do you think* about when you look at it? Does it look like your dreams?
(8) *What time of day do you think* Monet painted these trees? *What do you think* the weather was like?
(9) What do you think it is? A door, art or both?

As can be noticed in example (7), reference to the audience's present life and experience, meant to involve children (Diani 2015; Sezzi 2015, 2017), is also found in the questions: *Does it look like your dreams?*

Furthermore, this popularizing strategy often embraces the manual dimension, typical of educational websites on art. In the macro-section MAKE the view of “children as artists” prevails:

(10) Calder made new ways of looking at and creating art. What do you think about his work? Does it remind you of anything you have seen before? Have you ever tried to make a mobile?
(11) What do you think of Degas's artwork? Have you ever tried to draw a dancer? How would you use marks and scribbles to show someone moving?
(12) So what do you think about Patrick Heron’s art? How does it make you feek? Does it remind you of familiar objects or does it look like lots of strange shapes and colours? You can also try making a painting like his. Try remembering a scene from a garden, your living room or a beautiful sunset, then make a painting from your memory with simple shapes and lots of different colours.

The invitation and subsequent suggestions to create a work of art inspired by the pictures are therefore preceded by questions that become an integral part of knowledge dissemination.

4.2 Other Popularizing Strategies

The exhortation to look and create of the above examples underline the “colloquially inviting language” used in these texts, which, like in websites of children’s museums, convey “proximity” and where fun comes into play (Sabatini 2017: 70):

(13) Let’s look at another example of her work.
(14) A bit confused? Don’t worry, so are we.
(15) Watch out!! We are about to jump in to a world of bright colours and bold shapes.

Certainly, it is true that “[d]edicated web pages for children by large museums tend to be different from those of children’s museums” because there is a more careful selection of photographs and illustrations while the verbal texts are more “sober” and “highly readable, with larger lettering, neatly separated paragraphs and easy-to-navigate hyperlinks, banners and menus.” (Sabatini 2017: 71). Yet, knowledge in *Tate Kids* is made available in an extreme dialogical and informal way:

(16) Inspired by these kick-ass girls? Why not have a go at making your own protest poster?

As the previous examples highlight, children are addressed directly using the second-person pronoun *you*: this strategy – shared with other popularizing genres for kids (Scanlon 2011) – boosts users' involvement (Breeze 2015). A more inclusive *we* is also exploited, thus strengthening the relationship with the addressee (ibid.).

Besides the colloquial language, the direct address to the audience, and the use of questions, art knowledge is disseminated by adopting different popularizing strategies.

Specific art terms are, for example, introduced thanks to *denomination* (e.g., *called*):

(17) Some of her most famous sculptures that she created were *called cells* that she made in the 1990s.
(18) He invented a style of art *called suprematism*, a visual language of simple shapes and colours.
(19) He was one of a group of artists making art in the 1960s who were *called pop artists* because they made art about 'popular' things such as TV, celebrities, fast food, pop music and cartoons.

Definition is used even for terms that are not strictly connected to art, but are thought to be difficult for the children surfing the website:

(20) While he was studying at the Slade School of Fine Art in London, Ben Nicholson discovered cubism. *Cubism was a style of art invented in around 1907.*
(21) Surrealists were inspired by a famous psychologist called Sigmund Freud. *(A psychologist studies behaviour and how people think.)*
(22) This painting looks a bit like a big doodle that has been made into a monster. It is by an artist called Joan Miró and is called The Great Carnivore. *(A carnivore is an animal that eats meat!)*

Reformulation (or *paraphrase*) turns out to be fundamental, especially with foreign terms. Colloquial language and its possibilities might be fully exploited in this case (23).

(23) This is because Paris was the capital of the avant-garde, *which means cutting-edge and very cool.*
(24) The work was inspired by talismans *(or good-luck charms)* made from human hair that are knotted around car bumpers in India to protect against bad luck.
(25) Impressionism is a style of painting that began in France in the early 1860s when artists started painting pictures outside, rather than in their studios. This was called 'en plein air' *(which is French for open air)*.

When describing the works of art *exemplification* is also of paramount importance.

(26) The Snail shows Matisse's interest in bright colour. He has arranged complementary colours alongside each other to create a vibrant effect. *For example* the green touches the red, and the blue is next to the orange. This makes the picture extra zingy and really attracts your eye's attention!

(27) This painting is called Cadmium with Violet, Scarlet, Emerald, Lemon and Venetian: 1969. It's from a series of paintings he did that were all quite big. *For example,* this one is almost 4 meters wide. That's almost twice the size of a horse!

(28) She is famous for using unlikely things to make her art. These are things used every day in India, but to Sheela Gowda they have a symbolic and sometimes mystical meaning. *For example* the scraps of tarpaulin and old oil drums she uses in her installations represent the simple slum houses of poor Indian workers, as this is often what they use to construct them.

While examples of *generalization* are few, *analogy* or *association* is commonly employed, often anchoring the similes to the children's world.

(29) The painting above *looks a bit like* a nightmare! Surrealist artists liked spooky subjects and things that couldn't be easily explained

(30) This painting *looks a bit like* a big doodle that has been made into a monster.

(31) All the rich men and women would go to the races and the horses were so famous that everybody knew their names *(a bit like the way we know footballers' names now)*.

Effective strategies aimed at popularizing art are consequently devised in order to make modern art accessible to a juvenile audience who probably will become potential visitors. In fact, knowledge dissemination in this case is covertly intertwined with and functional to a promotional objective.

4.3 The Promotional and Evaluative Aspects

As Sabatini rightly claims, "The language is not unabashedly promotional, focusing on the quality of the opportunities while avoiding abstract words" (2017: 71). In Tate Kids, the promotional aspect is carefully positioned at the end of the pages only in two instances. Coherently with the register adopted within the website, it takes the form of explicit encouragements to visit the gallery, reinforced by the use of exclamation marks.

(32) *You can come* see Rothko's paintings at Tate Modern today*!*
(33) Millais became a very successful painter in his lifetime. There is even a statue to him outside Tate Britain! *Go and visit* him, next time you come to the gallery*!*

The promotional effect mainly relies on children's curiosity – stirred by the explanation and the description of the artists and works of art that can be seen at the Tate Gallery – and on evaluative elements that stress the uniqueness of the Tate's exhibitions, sometimes underlining their disquieting and strange characteristics.

(34) Born in London in 1889, he is most famous for his landscape paintings, *which look mysterious and sometimes slightly spooky.*
(35) Welcome to the *weird and wonderful world* of Salvador Dalí.

6. Conclusions

The analysis of Tate Kids, the Tate Gallery's website dedicated to children, has shown that art popularization aimed at juvenile audience implies a recontextualization of expert discourse for the lay audience, similar to that aimed at adults. As a matter of fact, on the one hand, as for popularization for children in general, concepts are simplified with an eye to the addresses' limited background knowledge and cognitive abilities. On the other, as the findings demonstrate, analogous strategies to communicate knowledge are used such as denominations, definitions, or paraphrases in order to adjust information to children's capabilities.

Among the peculiar features of popularization for children, however, we observed frequent recourse to linguistic items typical of dialogic interaction (the use of *you/we*) – which is in line with the presence of games, quizzes, and other activities that somehow establish an apparently more direct relationship with the user. Also key is the related use of questions that both posit children as learners, miming the classroom context, and favour their involvement. Third, the use of a colloquial and informal style is often interwoven with references to children's lives and interests, so as to grasp their attention and make the concepts more comprehensible (Diani 2015, in press; Sezzi 2015, 2017).

As regards art popularization for children, Tate Kids seems to be a paradigmatic case. The promotional aspect of museum discourse (Bondi 2009; Sabatini 2015, 2017) is incorporated to knowledge dissemination to the point that they can hardly be separated. Indeed, by describing and explaining artists and works of art Tate Kids acts as a cultural agent and simultaneously attracts potential young visitors. Particularly, they are posited as would-be "artists" or "art critics", by stressing their ability to make artworks and asking for their opinions and interpretation. In this regard, the presence of photographs is not only a popularizing strategy, but it has to do with the very nature of the discipline involved. Multimodality (Kress, van Leewen 2006) and the related deixis are intrinsic in arts.

Fascinatingly, with its explosion of colloquial language, popularizing strategies, and dialogism, Tate Kids really opens the gates, otherwise locked, of modern art to children, merging fun with education and thus creatively achieving the website's objectives in line with the general Tate's "non-traditional, symmetrical and pluri-discursive transmission and construction of knowledge involving the Museum institution, the local communities and the interactive audiences" (Sabatini 2015: 122).

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SECTION IV

NEGOTIATING ROLES AND RELATIONSHIPS FOR SPECIALIZED KNOWLEDGE COMMUNICATION

CHAPTER TEN

PROBABILITY ADJUNCTS AS HEDGES IN NATIVE AND 'NON-NATIVE' ENGLISH WEB-MEDIATED COMMUNICATION

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Abstract: In the digital era we find ourselves in, information is made accessible worldwide with a click: the internet facilitates the dissemination of knowledge across cultures with little or no limitations. Importantly, websites authored by different people with different linguistic and cultural backgrounds all employ certain linguistic devices to present claims with caution and mitigate criticism. These linguistic devices, technically called *hedges*, are comprised of lexical verbs, modal verbs, modal nouns, adjectives, adverbs and adverbial constructions, reference to a model, reference to limiting conditions, admission of lack of knowledge. In this context, it is the purpose of this paper to take a closer look at probability adjuncts (Halliday 1994) that are often used as hedges on the web. Working on the assumption that "[w]riters can qualify the status of their knowledge by expressing propositions as resting on speculative, deductive, quotative and sensory judgements" (Hyland 1998: 136), we discuss data from Mark Davies's *Corpus of Global Web-based English* (GloWbE) in order to compare and contrast the Great Britain, Ghana and Nigeria sub-sections for both native and 'non-native' English. This shall enable us to assess whether and to what extent hedges and probability adjuncts are used to "defin[e] in some way the conditions under which 'authority' is being assumed for the statement" (Greenbaum, Quirk 1990: 181).

1. Introduction

Information is now made accessible worldwide with a simple click. The dissemination of knowledge across cultures with little or no limitation is facilitated by the use of the internet – which has turned the world into a global linguistic village.

Importantly, websites authored by people with different linguistic and cultural backgrounds appear to make recourse to similar linguistic strategies, traditionally called *hedges*, as regards speech acts such presenting information, downtoning claims, and mitigating criticism, among others. The notion of hedging has gained popularity since Lakoff (1972) coined 'hedges' to represent words and phrases "whose job is to make things fuzzier or less fuzzy". With Edusei (2016), we understand hedging as:

> the textual strategy of using linguistic devices [adjectives, adverbs, nouns, verbs] to express a lack of complete commitment to the truth of an accompanying proposition by so doing, presenting the proposition or claim as an opinion in an objective manner and distancing oneself from the responsibility of the reliability of the truth of the proposition or claim. (Edusei 2016: 105)

This definition accounts for saving the addressee's negative face (Brown, Levinson 1987) and avoiding disagreement in case the truth of a proposition is found questionable. Hedging is therefore related to the concepts of politeness, indirectness and vagueness. The overlapping nature of hedging with these mentioned communication strategies signals that hedging is indispensable in any social interaction, including web-based communication (Resche 2000; Edusei 2016).

Since hedging, and hedging a question or problem in particular, involves trying to avoid answering a question or to commit oneself to a particular action or decision (Collins: HEDGE, *v.*), paratextual elements such as disclaimers and copyright notices published on websites could be understood as having hedging functions. They protect and limit the website owner's liability and remove any warranty for the information provided, giving notice that the use of the website is at the users' own risk and clarifying issues about copyright ownership and further usage of the website.

The present study investigates the use of probability adjuncts as hedges in native and non-native web-based communication in English. The *Great Britain*, *Nigeria* and *Ghana* sub-sections of the *Corpus of Global Web-based English* (*GloWbE*; Davies 2015) are compared in order to investigate in what ways and to what extent text authors comment on or commit themselves to the truth-value of their propositions. Importantly, the Ghanaian and Nigerian English modules are selected as 'non-native speaker' sub-corpora (*GloWbE-GH* and *GloWbE-NG*) and discussed against data from the Great Britain native speaker sub-corpus (*GloWbE-GB*). This parallels the status of these countries as former colonies and colonial master, respectively.[1] The study aims to contribute to the discussion on language variation and cross-cultural hedging. As Hyland puts it,

> [w]riting is always a personal and socio-cultural act of identity whereby writers both signal their membership in a range of communities as well express their own creative presence. (Hyland 2006: 35)

Hence, these 'non-native' English varieties with similar sociolinguistic background are compared and contrasted as regards recourse to hedging probability adjuncts on the World Wide Web. By doing this, it is our purpose to shed some light into how hedging is effected in the Ghanaian and Nigerian varieties of English – a topic that has not received much attention to date.[2]

2. Probability Adjuncts

The term *probability adjunct* (PA) was originally coined by Halliday (1994) to describe disjuncts that are used as hedges in a text. They are adverbials that denote the speaker's/writer's attitude toward or judgement of the proposition, expressing for example the speaker's/writer's degree of truthfulness or his manner of speaking (Brinton, Brinton 2010: 219). In Hyland's (1998) taxonomy, hedging disjuncts are classified as a sub-

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[1] More specifically, GloWbE contains about 1.9 million words of text from 1.8 million web pages in 20 different English-speaking countries. GloWbE allows researchers to examine variation in English by dialect, genre and/or over time. About 60 percent of the texts in the corpus consists of informal blogs and other web-based materials such as magazines, newspapers, and company websites. The other 40 percent consist of a wide variety of more formal genres and text types. While the Great Britain section is comprised of 387,615.074 running words, the Ghana (GH) and Nigeria (NG) sub-corpora are much smaller (38,768.231 running words and 42,646.098 tokens, respectively). The GloWbE corpus was released by Mark Davies, of Brigham Young University, in 2013 (http://corpus.byu.edu/glowbe/). The Great Britain, Ghana and Nigeria subsections of the GloWbE are considered for analysis in this study: GloWbE-GB: 387,615.074 words; GloWbE-GH: 38,768.231 words; GloWbE-NG: 42,646.098 words. See Davies and Fuchs (2015) for more detailed information on the corpus.

[2] Notice that Ghana is reported to have a clearly distinct accent in English. Because the Ghana accent is distinct from other West African countries including Nigeria despite their shared colonial experience and similar sociolinguistic background (Bobda 2000:187), it has received extensive attention in the relevant literature. Unfortunately, the same is not true of the expression of sociocultural identity in written genres.

category of epistemic adverbs.[3] They are traditionally called sentence adverbials because they modify the entire sentence and not just the verb.

Based on Greenbaum (1969), Quirk et al. (1985), Greenbaum and Quirk (1990), Biber et al. (1999) and Hyland (1998), probability adjuncts can be categorised into two subsets: *style probability adjuncts* (style PAs), and *content probability adjuncts* (content PAs), in their turn divided into certainty, sense and truth adjuncts (Hyland 1998: 139).

Style probability adjuncts are often used to indicate that a generalisation is being made. They express the speaker's comment on the style and form of what is being said and define in some way the conditions under which authority is being assumed for the statement (Greenbaum, Quirk 1990: 181).

(1) *Generally*, the amount you pay for loan PPI is about 15 you're your balance … (GB)
(2) *Approximately*, the diocese covers a surface area of about six thousand eight hundred (6800) square kilometres with 25 parishes. (GH)

Content probability adjuncts, instead, express the sense in which the writer believes what is said to be true or false. They can also express doubt without carrying implications about the truth of the statement. One first subset, *Certainty PAs*, includes adverbials like *likely*, *probably* and *presumably*, and other items taking different positions along the scale of certainty and doubt (3). *Sense PAs* comprise *essentially* or *potentially* and other adverbials that express judgement based on the mental perception of the speaker (4). *Truth content PAs* express a judgement on the truth of the proposition and include the adverbials *apparently* and *evidently* (5).

(3) *Probably*, you are a unique woman. (GB)
(4) This could *potentially* result in substantial investments. (GH)
(5) Awolowo, *evidently*, had a constant review of the Yoruba situation and took different path. (NG)[4]

[3] Over the years, these linguistic devices have gone under a number of different names: *sentence adverbials* (Tipping 1959: 231), *sentence* and *viewpoint adverbials* (Alexander 1997: 142), *stance adverbials* (Biber et al. 1999: 853), *disjuncts* (Quirk et al. 1985: 612), *sentence modifiers* (Hartmann, Stork 1976: 49), *sentence adverbs* (Thomson, Martinet 2001), *modal adjuncts* (Huddleston, Pullum 2002: 767), *comment adverbs* (Swan 2005: 17).

[4] For additional examples, see Biber et al. (1999: 860).

3. Data Analysis

3.1 Data

Quantitative and qualitative data analysis was carried out to ascertain the use of PAs as hedges in native and 'non-native' web-based communication in English. Quantitative analysis involved the search of PAs directly on the GloWbE interface, based on a preliminary list gathered from scholarly grammars and the relevant literature. By choosing the Chart option under Display and entering the specific PA, raw and normalised (per one million) frequencies could be visualised across all subsections (Figure 1). Research was then restricted to the lingua-cultures under investigation (GB, GH, NG).

In order to pinpoint any (dis)similarity in the use of hedges across native and non-native web-based communication in English, we then compared and contrasted the raw frequencies of *possibly*, *probably*, *presumably* (certainty content PAs), *approximately*, *generally* (style PAs), *essentially*, *potentially* (sense content PAs), *apparently*, *evidently* (truth content PAs).

Recall that our purpose at this stage of research is to compare and contrast frequencies of occurrence of selected PAs across native and 'non-native' web-based communication in English. Their total occurrences normalized per one million words are displayed in Figure 1. Overall, native speakers appear to use slightly higher number of PAs than 'non-native' speakers: approximately 721.1 tokens in GB, 396.8 tokens in GH and 417.2 tokens in NG. As can be seen, *probably* is the most frequent PA in all three lingua-cultures, followed by *generally*, *possibly*, *apparently*, *potentially*, *essentially* and *approximately*. The PAs with the lowest frequencies are *presumably* (35.9) and *evidently* (18.1),[5] which make up about 3.5% of the total number of PAs in the corpus. Notice, however, that *probably* was used almost twice as much on Great Britain websites (313.3) than on Ghanaian (136.9) and Nigerian (172.7) websites: 43% of the PAs in GB, 35% in GH and 38% in NG.

[5] The exact breakdown for *presumably* is as follows: 25.3 in GB, 5.2 in GH and 5.4 in NG, respectively; for *evidently*, 7.7 in GB, 5.1 in GH and 5.3 in NG.

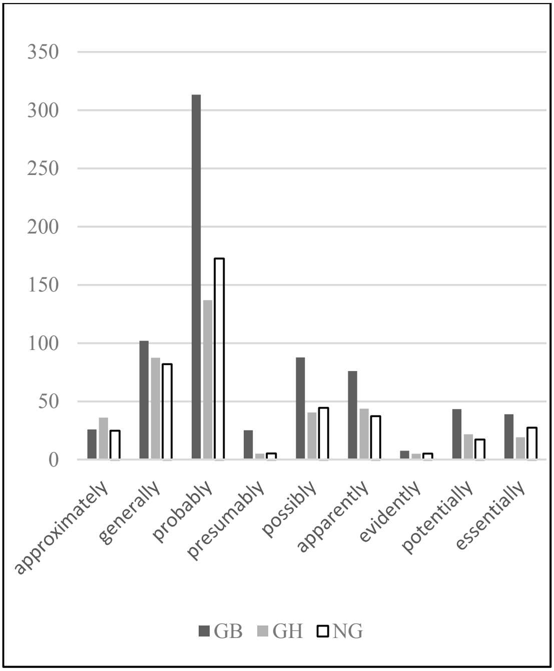

Fig. 1: Total occurrences of probability adjuncts in Great Britain (GB), Ghana (GH) and Nigeria (NG) per 1m words

In view of Hyland's (1998: 135) assertion that "the choice of initial position […] can serve to accent the hedge and provide the reader with an alternative interpretation for the entire sentence", further analysis was conducted, to ascertain whether differences between the three countries exist in the position in the texts of the most frequently used PA, *probably*.

Figures 2, 3 and 4 show the relative frequencies of *probably* in Great Britain, Ghana and Nigeria, respectively in sentence-initial, intermediate or final position.

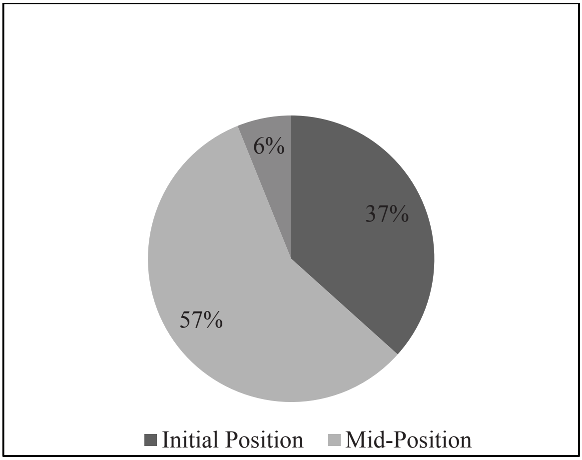

Fig. 2: Position and relative frequency of *probably* in GB

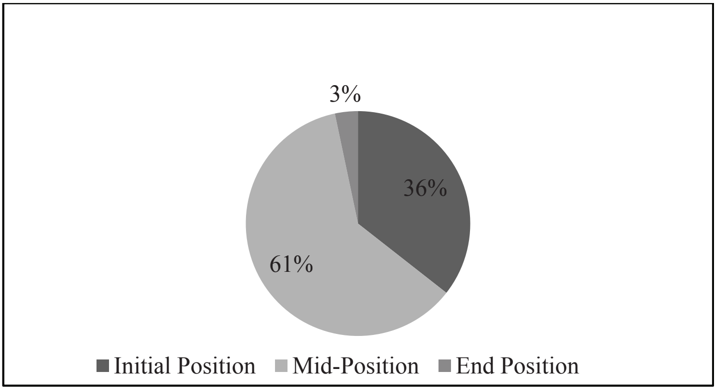

Fig. 3: Position and relative frequency of *probably* in GH

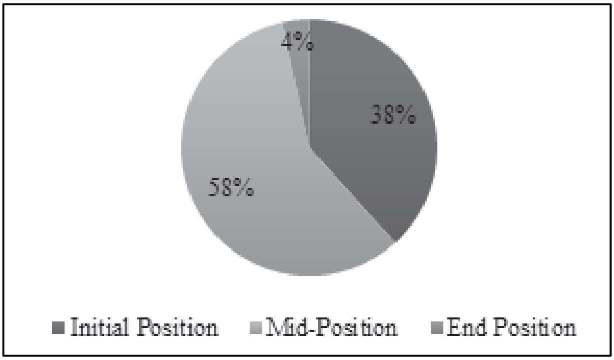

Fig. 4: Position and relative frequency of *probably* in NG

As can be seen, 57% of *probably* occurred in mid-position, 37% in initial position and 6% in end-position (Figure 2). 61% of *probably* occurred in mid-position, 36% in initial position and 3% in end position (Figure 3). 58% of *probably* occurred in mid-position, 38% in initial position and 4% in end-position (Figure 4). That is, the results show that both native and 'non-native' speakers of English use PAs as hedges in web-based communication. Interestingly, both native (GB) and 'non-natives' (GH, NG) seem to prefer *probably* to all the other PAs examined in this study. According to Huddleston and Pullum (2002: 769), *probably* "explicitly allows for the possibility that the proposition is not true, but rates the chances of its being true as greater than even". Further analysis of the most frequently used PA, *probably*, revealed another similarity between natives and 'non-natives'. They all use *probably* more often in mid-position than in sentence-initial or sentence-final position.

Hyland (1996: 481) argues that non-native speakers often tend to use fewer hedges than native speakers. This assertion appears to be right in the case of Great Britain vs Ghana and Nigeria. Apart from *approximately*, which was used more often on Ghanaian websites (36.1), all the other PAs occurred more frequently on GB websites. Broadly speaking, Ghana and Nigeria appear to apply hedges in the same way (i.e., less than Great Britain). Only a slight difference exists between the two 'non-native' corpora: Nigerians seem to use more PAs than Ghanaians. On the one hand, five out of the nine PAs examined in this study occur more on Nigerian websites than Ghanaian websites: *essentially* (27.5), *evidently* (5.3), *possibly* (44.6), *presumably* (5.4), and *probably* (172.7). Ghanaians, on the other hand, seem to prefer *apparently* (43.9), *approximately* (36.1), *generally* (87.6), and *potentially* (21.8).

Figure 5 illustrates the proportion of different categories of PAs in the corpus. Certainty content PAs were used more often by both native and non-native speakers. More than 50% of the PAs found in GB (426.5) and NG (222.7) were content PAs. About 11% of the PAs in the three sub-corpora were sense content PAs. 'Non-native' speakers tend to use more style PAs than native speakers (128.2). 31% of all the PAs in GH and 26% of all the PAs in NG were style PAs.

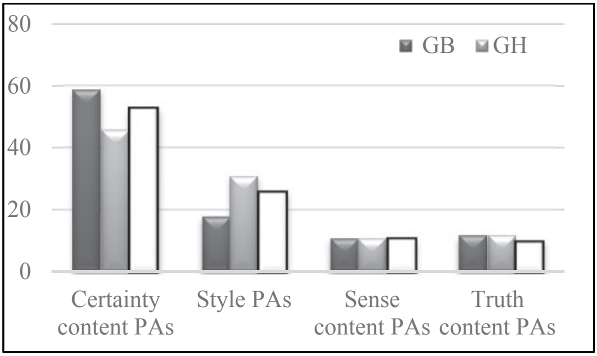

Fig. 5: Relative frequency (%) of categories of PAs in the corpus

4. Conclusions

This paper took the first steps towards investigating selection and use of probability adjuncts (PAs) as hedges in web-mediated communication by native and 'non-native' English speakers. To this purpose, we used data from the Corpus of Global Web-based English (GloWbE), in order to compare its Great Britain, Ghana and Nigeria subsections. The study was medium and culture specific.

In much the same way as paratextual elements like website disclaimers and copyright work, hedging is an essential linguistic feature of web-based communication and in all social interactions. Whether in formal or informal communication, spoken or written, everyday conversation or not, we employ certain linguistic devices to mitigate our claims, guide our audience to relevant information, and shield ourselves from criticism. PAs investigated in this study included *apparently*, *approximately*, *essentially*, *evidently*, *generally*, *possibly*, *potentially*, *presumably*, and *probably*. Though more research needs to be carried out, especially by comparing and contrasting recourse to different types of PAs in context, at this stage it seems reasonable to claim that native and 'non-native' speakers of English use PAs differently to hedge web-based communication.

Native speakers use more PAs than 'non-native' speakers. Ghana differs from Nigeria in their use of PAs as hedges in web-mediated communication. That is, 'non-native' speakers with similar colonial history and linguistic backgrounds differ in their use of PAs as hedges in web-based communication. Differences in usage of PAs as hedges should not be considered as errors or abnormal deviations from the standard (native variety), but rather cultural indicators that Ghana English and Nigeria English also exist as national varieties of British English.

Of course, the list of PAs examined in this paper was only preliminary; it could be readily expanded to include adverbials that express judgement of the truth of a proposition based on quotative evidence, such as *arguably*, *allegedly*, *reportedly*, *reputedly*, *supposedly*, etc. Also, further research could compare texts from web-mediated communication in English and academic writing of specific countries, either Ghana, Great Britain or Nigeria. The International Corpus of English (ICE) would be very useful in this case since all three countries have finished the written portions of the respective corpus (Davies, Fuchs 2015: 2).

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CHAPTER ELEVEN

VERBAL IRONY AND OTHER FIGURATIVE TROPES ON THE *MARGINAL REVOLUTION* BLOG

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Abstract: This paper looks into social maneuvering, positioning and the personality-related needs of web users on economics blogs. Considering that domain expertise, credibility and knowledge communication skills may affect the strategies through which users control and communicate specialized knowledge, express opinions and align themselves or disagree with discussants within a given online community, our question is one about negotiating roles and relationships across posts and comments. To this purpose, we carry out qualitative data analysis into the *Marginal Revolution* blog (years 2012, 2016), hosted by the economist Tyler Cowen. The focus is on verbal irony and other figurative tropes, whose socio-pragmatic effects enable bloggers to adjust to the personality-related needs of their interlocutors, signal or engineer their position, and ultimately negotiate, construct and control expert knowledge.

1. Introduction

Domain expertise may affect the ways in which more and less active ratified participants within a blogging community negotiate and control not only specialized knowledge, but also roles and relationships. Working against the backdrop of research in the extended participatory framework of the web (Jenkins et al. 2006; Herring, Stein, Virtanen, eds. 2013), this paper uses data from Tyler Cowen's *Marginal Revolution* blog in order to investigate the ways in which ratified participants negotiate their position within the online community, communicate knowledge, and ultimately construct domain expertise across posts and comments. More specifically, the focus is on the socio-pragmatic effects of irony and other figurative tropes – for instance, self-doubting and self-deprecating irony, used for ingratiation, social maneuvering, bonding and tension reduction; metaphor, aiming at efficiency and persuasion; hyperbole, used for highlighting discrepancies (sensu Colston 2015; cf. Sections 3, 4).

The chapter is structured as follows. Section 2 provides an outline of the corpus and briefly addresses the main features of blogging as social action, meant to communicate knowledge, personal and community perspectives. Following their emergence in the late 1990s, blogs (web logs or weblogs) have now become a genre of their own (Puschmann 2013). Very broadly, they are a form of regularly updated online publishing built around links (Myers 2010). While acknowledging that blogging as text and practice calls for thorough rethinking and reconsideration of the patterns of interaction that characterize conventionally written and spoken modes (cf., e.g., Baron 2008, 2015; Puschmann 2013; Sindoni 2013), in this paper I restrict the analysis to verbal irony and related figurative tropes. Section 3 briefly defines irony and introduces some socio-pragmatic effects of figurative language use. Section 4 is a qualitative case study of verbal irony and other figurative tropes.

2. Tyler Cowen's *Marginal Revolution* blog

Tyler Cowen is a professor of economics at George Mason University, Virginia. As a very prolific and highly recognized economist, he has proven himself able to wear several hats and communicate specialized knowledge to a vast array of educated readers with diverse backgrounds, through diverse genres, modes and media – not only journal articles and columns in *The New York Times* or *The Washington Post*, but also scholarly publications and, importantly, the *Marginal Revolution* blog (https://marginalrevolution.com/). This primarily topic-centric, scholarly blog (Puschmann 2013) is hosted on Cowen's integrated online education platform for learning economics and understanding the world (Marginal Revolution University: https://www.mruniversity.com/). Its stated purpose is to take "small steps toward a much better world" (https://marginalrevolution.com/) by fostering debate about economics. Because the Marginal Revolution blog is one of the most popular economics blogs in the US (Bondi 2018), it is the ideal candidate for starting discussion about the role that verbal irony and related figurative tropes may play in managing and maneuvering identity and relationships within the blogging community (Schmidt 2007). Specifically, we shall consider examples that we manually selected from the following data set: 100 posts (for a total of 43,740 tokens) published in 2012 and the associated first 15-20 comments (121,000 plus words); 100 posts (36,947 tokens) and the corresponding first 15-20 comments (approximately 104,000 tokes) published over the 12 months of the year 2016.[1]

3. Verbal Irony

Internationally, there is extensive research on the conceptualization and uses of verbal irony across theoretical frameworks, contexts of use and genres (cf., e.g., Gibbs, Colston, eds. 2007; Colston 2015; Attardo, ed. 2017). For the purpose of this paper, we adopt Salvatore Attardo's authoritative definition of *irony* as *relevant inappropriateness* (Attardo 2007 [1993]), where relevance and inappropriateness are not coextensive. On this view, an utterance *u* is ironical if:

1. *u* is contextually inappropriate.
2. *u* is (at the same time) relevant.
3. *u* is construed as having been uttered intentionally and with awareness of the contextual inappropriateness by S[peaker].
4. S intends that (part of) his or her audience recognizes points 1 to 3.
5. Unless H[earer] construes *u* as being unintentional irony, in which case 3 to 4 do not apply. (Attardo 2007: 159)

In line with Colston (2015, 2017), we understand *humor* as one of many pragmatic effects germane to intentional or unintentional irony (Colston 2015). The other way round, irony and other figurative tropes (e.g., hyperbole, understatement, metaphor, etc.) can be seen as specific categories of humor. Like humor, irony involves a number of hierarchically ranked knowledge resources, from Language at the bottom end and a Narrative Strategy that may place irony at different points along the textual vector, through the Target (or 'victim') of the irony in a Situation or overall macro-script that describes the background for the events referred to in the utterance, to Script Opposition and Overlap, which allow incongruity resolution via the Logical Mechanism (Attardo 2017).

When the contradictory juxtapositions of meaning/expectations found in the linguistic depiction of events is understood as 'benign', the effect is humorous; when irony combines with the aggressive (as against affiliative) dimension, sarcasm is at play. On all occasions, the purpose of

[1] I am extremely grateful to Marina Bondi, Franca Poppi and Annalisa Sezzi for sharing with me the 2012 and 2016 sub-corpora. They are part of a much larger corpus that covers key economic policy matters debated by Tyler Cowen and other established economists on blogs and scholarly blogs, in academic publications and journalistic writing. The corpus is currently in the final stages of completion.

the speaker is to manage a negative attitude about some referent, event or situation. Negativity expression management is also a feature of other subtypes of verbal irony, including ironic praise (the expression of negativity through a seemingly positive utterance) and ironic criticism (the expression of positivity through a seemingly negative utterance), as well as hyperbole and understatement (which highlight discrepancies between expected and real magnitudes), ironic analogy and ironic restatement (Colston 2015, 2017).

Turning to the level of usage, a major issue that will figure in what follows is that different types of irony are closely – though not deterministically – related to general and specific pragmatic effects. Broadly, Irony and Hyperbole are used for Persuasion, for Meaning Enhancement and for Highlighting Discrepancies. Other pragmatic effects are Social Engineering and Politeness: for instance, verbal irony and understatement can be used to manage face issues (Sperber, Wilson 1986) and modulate the strength and type of negativity expressed. Of course, Tension Reduction and Catalyzation effects can also enhance the degree of social interaction and Alignment, while minimizing cognitive dissonance and reinforcing community membership. With Rhetorical Questions, however, Hyperbole and Irony can also serve Impoliteness, because they convey negative evaluation. Unlike downtoning Understatements that are specifically intended to minimize face-threats, hyperbole and irony may be used to express and elicit strong negative Emotions. For the sake of brevity, we will introduce other effects along the way. In a sense, these effects reflect and affect what is believed to be collectively known, interlocutors' familiarity and identities, roles and relationships, and, therefore, their social positioning (Colston 2015).

4. Negotiating Identities, Roles and Relationships

The Marginal Revolution blog is defined by the presence of a highly heterogeneous community (Mauranen 2013). The loss of a definitive separation between audiences and discussants results into a variety of participants, including scholarly experts, professionals and enthusiasts, lay spectators and commenters (Bondi 2018). Also, context collapse (Puschmann 2015) may result into a multiplicity of purposes – e.g., reinforcing authority and enhancing visibility (Luzón 2012), furthering research (Kuteeva 2016) by "shar[ing] and debat[ing] context-specific information in a more or less informal manner" (Puschmann, Mahrt 2012), or disseminating knowledge.

Though there are many ways in which participants may interact towards the community's joint enterprise, it is intuitively plausible to assume that a large portion of the community are passive or legitimate peripheral participants, while only a small core group of people are actively engaged (Lave, Wenger 1991; Wenger 1998). We therefore take it as a starting point that relations are asymmetric and mutual engagement varies significantly among members. Of course, Tyler Cowen himself has a privileged role: on the footing side, he is not just an author, he is also the principal and animator; on the participation side, he addresses ratified participants and bystanders (other registered bloggers) as well as overhearers (as per Goffman 1974, 1981). He keeps the blog running, selects topics and starts interactions. Within the economy of the paper, this means that we will be exploring irony not only in Tyler Cowen's posts, but also in the comments of the discussants, including less engaged/active ratified participants.

4.1 Irony in Naming

Core/active discussants on the Marginal Revolution blog are established academics and well-known peers. For them, the blog is yet another way to share and debate key issues. That is, the blog is "integrated into the entrenched ecosystem of the scientific community" (pace Kjellberg 2010, in Puschmann, Mahrt 2012: 174). Anonymity is off the mark: most participants are fully or at least partly recognizable, in that known offline as (core/active) members of the given disciplinary community. On these grounds, they register and sign posts using given name and family name (1).

(1) *Richard Berger*; *Ian Maitland* (business professor); *(Not That) Bill O'Reilly* (i.e., not Bill O'Reilly, the best-selling author and now disgraced political commentator, but most probably William O'Reilly, lecturer in history)

Recourse to given name, short forms and initials – another fully legitimate naming strategy in informal contexts – might make the referent less transparent, at least for non-experts (2).

(2) *Cliff*, *Dan*, *Derek*, *Louis*, *Ricardo* (for Ricardo Hausmann); *Alan W* (given name plus initial), *byomtov* (initial plus family name, for Bernard Yomtov); *CG*

For other discussants, however, being identifiable might be secondary to voicing one's likes, using alter egos or expressing personal interests and appreciation of entities outside economics (3).

(3) *Thiago Ribeiro* (footballer); *JK Brown* (Quentin Tarantino movie and leading role in the movie); *Art Deco* (art movement)

Another option available to less authoritative and credible participants (4) is recourse to descriptive names that guarantee anonymity and back the blogger's argument while reinforcing and suggesting a specific stance towards life and society.

(4) *A Black Man*; *Lord Action* and the hammer-wielding god and Marvel super-hero *Thor* (for bloggers believing in strong action plans)

Additionally, bloggers have an equally high degree of perceived online anonymity with descriptive names that play with different types of verbal irony, as in (5).

(5) *Troll me*; *Quantitative Sneezing*

As far as *Troll me* is concerned, the blogger poses as a snobbish expert who takes a particularly high standing within the community. Not only does he appear to promote conversation, he also promotes impoliteness and face-threatening behaviors by encouraging others to try their best at intentionally angering and frustrating him/her (Oxford English Dictionary: OED: TROLL, *v.*: draft additions March 2006). However, we have to try and make sense of *Troll me*'s somewhat sneering and irreverent description of the blogging community, which seems to contain a real potential for aggression, opposition, offense and attack. Overall, trolling is a highly deplorable online behavior, but on the Marginal Revolution blog peers (i.e., Tyler Cowen, the animator, and other core and active participants) do not engage in such malpractice nor target other community members; they only share and debate issues frankly. In this context, we may want to understand the paradoxical description behind *Troll me* – promoting what runs contrary to shared values and accepted social conventions within the community – as realizing an insincere speech act and therefore an instance of ironic inversion that shades into corrective irony. On this view, *Troll me* would constitute a furtive way to ridicule and satirize an all-too-negative online behavior, attract attention to the blogger's ability to keep bad at bay, and promote his/her online persona as able to challenge trolling. Hence, *Troll me* should ultimately work towards associative affiliation.

Quantitative Sneezing is a slightly different example. Overall, this improbable word combination is a ludic instance of highly incongruous and inappropriate self-doubting and self-deprecating irony. It encourages us to construe the blogging persona as a non-expert that is willing to learn and understand. The blogger has a positively playful and pleasantly humorous take on his/her own patently limited expertise: whereas active participation to the Marginal Revolution blog minimally requires intermediary to advanced knowledge of the theory or theories that underlie discussion of the issues presented, Quantitative Sneezing positions him/herself as marginal and marginalized while at the same time acknowledging the superiority of other community members. S/he appears to be less than s/he might actually be. As a matter of fact, the name describes the blogger as only able to use some sort of quantitative data analysis (and certainly not inferential statistics) to prove or disprove little 'sneezes' (to be intended figuratively as unimportant claims and pet theories, or useless research on obscure and bizarre topics that are given more effort than they are worth). The pragmatic effect of this form of self-doubting and self-protection is ingratiation, which is intended to act as a bonding mechanism (Colston 2015) and promote associative affiliation.

4.2 Irony in the Text

Tyler Cowen's posts on critical questions such as fiscal multipliers at the zero bound (6) require discussants to be conversant with state-of-the-art models.

(6) ***Fiscal multipliers at the zero bound in an open economy***
by *Tyler Cowen* November 8, 2012 at 6:34 am in Economics
Let's continue our look at debates over UK fiscal adjustment.
Will fiscal policy work in an open economy? The standard view has been that in a Mundell-Fleming model fiscal expansion appreciates the exchange rate and hurts the trade balance, thus offsetting the fiscal policy. The U.S. may be too closed an economy for this to be a big deal, but for the UK it seems this might apply, at least if one is operating within Keynesian frameworks.
The recent Keynesian response has cited the "lower bound" as a reason why fiscal policy still may be effective in an open economy. But what does this literature really show? Let's take a brief tour of it, starting with the August 2012 piece by Emmanuel Farhi and Ivan Werning, brilliant Harvard and MIT guys. Their piece is clear and excellent, and it shows what the case for fiscal policy in this setting looks like. (I don't read them as offering concrete advice to current governments and thus I have no criticism of their paper, which I am pleased to have spent time with.)

> The zero bound open economy model predicts that fiscal tightening leads to exchange rate appreciation (contra the usual Mundell-Fleming case), yet there is the British pound against the dollar:
> <GRAPH>
> Not an obvious fit to the prediction. There are countervailing factors, but maybe that's the broader story too. […]

Other posts, however, address smaller questions, quirks, anecdotes and events of the day. These are good conversation starters that can tease the curiosity of experts and lay bloggers alike while also establishing some kind of common ground with the latter: lay bloggers might not know much about models and theories, but they are assumed to be interlocutors of good general knowledge and up to date on the events of the day. At the same time, such small issues show great potential for applying theories and methods to bigger practical problems. Accordingly, in example (7) a fashion designer's refusal to sell or donate clothes to Melania Trump – most likely the next first lady in line at the time of publication of the post – is presented against the background of discussion about freedom of association.

(7) ***Freedom of association for me but not for thee***
by Tyler Cowen November 23, 2016 at 3:42 am in Law, Philosophy, Political Science
Last week, fashion designer Sophie Theallet announced she would refuse to sell or donate clothes to the next first lady, Melania Trump.

The example combines forms of congruent and incongruent irony (Attardo, ed. 2017). Humor based on script opposition and overlap emerges from bringing together the noble banner of equality and fundamental human rights (*Freedom of association for me and for thee*), and what many might consider minor events and unimportant aspects of human life (*fashion designer Sophie Theallet announced she would refuse to sell or donate clothes to the next first lady, Melania Trump*).

Association is another incongruent item. *Freedom of expressive association* is recognized as a human right and is protected under the First Amendment to the American Constitution. It covers freedom of speech, right to assemble, and free exercise of religion, including the right to wear religious clothing. However, the text addresses issues related to 'freedom of association and choice' when doing business as a *business associate*. This is an entirely different notion: business associates enter into an agreement with an entity and keep information with which they may come in contact confidential.

Other markers of irony concern the string *for me but not for thee*. From a phonological point of view, this is a case of congruent irony based on paronymy in *me* and *thee*. On another level, the author plays with fixed expressions/idioms and precepts, turning the well known *me and thee* into *for me but not for thee*. If we assume that informal *me and thee* links up with the quote *Let there be no strife between me and thee* (Genesis, xiii, 8), it is clear that the meaning of the precept has been turned upside down: what originally pointed to a condition of unity/association is now denoting antagonism and conflict. While we would expect *me and thee* to refer to 'everybody', they are contrasted in *for me but not for thee*, and their shifting referents are fashion designer Sophie Theallet and the then First Lady of the United States, Melania Trump. Overall, language mastery is used for persuasion, efficiency and meaning enhancement. The targets of irony are both the situation itself and Melania Trump. The unimportant question is whether or not a fashion designer should be free to give up business with the White House and turn down Melania Trump. Freedom of 'association' for the fashion designer (as it were, 'freedom to business-associate') is deemed to affect Melania's 'freedom of expression'. The irony of all this is that Melania had been branded *The Silent Partner* earlier in her husband's campaign trail: generally, her ability to 'make a statement' in public appearances is somehow limited to wearing the dress to impress.

For more engaging entertainment, however, let us turn to example (8). The debate takes as a starting point the fictional world of 007's villains (*Goldfinger Plot*), and extreme strategies and claims are dealt with (*Or how about this criminal strategy?*). Small investors might find the issue relevant to them, and more relevant than the discussion about freedom of association: the question about criminal plans in James Bond movies allows animator and discussants to address investing in gold in (marginal) economics terms and thus argue that turning to gold cannot be the miracle move in the real world.

(8) ***Which James Bond villain plan made the most economic sense?***
by Tyler Cowen November 20, 2012 at 7:48 a.m. in Economics, Film
I suspect Tim Harford knew I would blog this when he tweeted this piece. It starts with this. […]
Goldfinger Plot: Gold tycoon Auric Goldfinger's (Gert Frobe) plan is quite simple: He wants to attack the U.S. Bullion Depository in Fort Knox and detonate an atomic bomb, thus irradiating the gold stored there, rendering it worthless for decades. This will in turn increase the value of Goldfinger's own gold and cause economic chaos in the Western world.
Plausibility: "This looks plausible to me," says Dethier…

> *I must disagree*. First, it requires an upward-sloping marginal cost curve for gold production, including the flow out of commodity uses. That's actually plausible, but should death-risking criminal schemes rely on that? Second, if you are going to blow up some gold, don't blow up the gold held as an endowment, blow up some gold which might go on the market. Third, couldn't governments in response simply increase the capital gains rate on gold sales? In any case just setting off a dirty bomb probably would spike the gold price more than blowing up some gold. *Or how about this criminal strategy?: hold on to the gold and perhaps in due time it will go up from $35 to the unthinkable level of $200 or $300 an ounce*. [italics, S.C.]

Let us concentrate on the question-answer pair in italics, in which Tyler Cowen masters multiple strategies to control his interlocutors' knowledge and perspectives. The situation described by the text activates scripts concerning earnings and losses, quick and soft profits, more and less likely desirable and undesirable events, as well as luck, risk taking and investments that may cause benefit or detriment. Most investors have always remained optimistic about gold. However, the rhetorical question (*How about this criminal strategy?:*) invites bloggers to think about an unviable extreme-case scenario: over times trends have never encouraged analysists to forecast an impossible spike in gold price from $35 to $200-$300 an ounce (*go up from $35 to the unthinkable level of $200 or $300 an ounce*). In this context, *perhaps in due time* (i.e., 'one fine day') is to be interpreted as 'never in a million years' and irony can be accounted for via script opposition, from 'actual and possible good investment for money' to 'wishful thinking, non-actual and impossible miracle money and bad investment'. Recourse to an extreme-case formulation in a hypothetical scenario with a hyperbolic flavor (gold price spiking to unprecedented highs) and the unmitigated adamant expression of opinion (*unthinkable*) combine to achieve multiple pragmatic effects: persuasion, highlighting discrepancies, expressing emotions, and negative evaluation of third parties (not only 007 villains but also blind investors).

If we now turn to irony in the comments, a first look at the corpus shows that non-alignment and disagreement with other opinions and discussants come unmitigated (e.g., *I must disagree*, from example (8) above). Though rare, unkind comments might be made, e.g., byomtovs's criticism of Ian Maitland's standpoint in example (9): *Nonsense*; *What it proves is that […]*; *[…], as the history of the Jim Crow South shows quite clearly to anyone with eyes to see*.

(9) ***Freedom of association for me but not for thee***
by *Tyler Cowen* November 23, 2016 at 3:42 am in Law, Philosophy, Political Science
[…]
byomtov, November 25, 2016, at 9:18 om
Ian Maitland: But it illustrates why rational business people can be expected to oppose discrimination – because it is not in their rational self-interest. I am not prettifying their motives, just noting the predictable results of markets. Oppose discrimination – because it is not in their rational self.
Nonsense. *What it proves is that* **sometimes** business people find it in their interests to oppose discrimination. And sometimes they don't, *as the history of the Jim Crow South shows quite clearly to anyone with eyes to see*. [bold in the original; italics, S.C.]

Ratified participants are mutually accountable. As a follow-up to previous posts and comments, they may want to share expertise and know-how, exchange views and argue the pros and cons, merits and demerits of UK fiscal adjustment policies in 2012 and before (e.g., byomtov's reply to Ian Maitland's comment in (9), from a thread triggered by Cowen's post in (1)). Considering that one function of verbal irony and figurative language in general is to land a "criticism on a target while stealthily avoiding the appearance of negativity, as in *You sure do know how to treat a lady*" (Colston 2015: 77), it is no surprise that this type of verbal irony and social maneuvering is not a distinctive feature of the posts: objections and disagreement are negotiated via arguments grounded in survey evidence, facts, models and theories adopted in the relevant literature – that is arguments that provide objective evidence and justification for the propositional content of the claim. On these grounds, core/active participants can afford to be outspoken, frank and even unbelievably unkind, as in example (9), where politeness is not an issue.

Quite fittingly, however, relatively less active discussants may want to mitigate their speech acts (Searle, Vandervecken 1985). For instance, in example (10) Claudia – certainly not a regular to the blog – uses conditionals to work on epistemic status and reduce her commitment to the truth of the proposition (*I would second under 5) to be wary of […] and […] even add my concern at […]*; *But I would not want to push too hard that […]*). The underlying speech acts are CONTEND/ARGUE/SUGGEST (rather than CLAIM or CONFRONT). If beliefs are explicated in terms of the highest possible degree of epistemic status and indubitability, then these properties of the proposition and of the speaker alike are reduced when discussants use hedges like conditionals or the probability adjunct *maybe* (*Maybe I've seen too much survey evidence that [...]*).

(10) ***Fiscal multipliers at the zero bound in an open economy***
by *Tyler Cowen* November 8, 2012 at 6:34 am in Economics
[…]
Claudia November 8, 2012 at 7:48 pm
<STANDPOINT:> *I would second under 5) to be wary of* models which depend on "squirrel mechanisms of intertemporal substitution" *and even add my concern at* models that depend on a strong responsiveness of consumption growth to interest rate changes. <OPPOSING STANDPOINT:> *Yes, there are effects of interest rates,* particularly through durables and maybe interests are a signal to households of future interest growth. <RETURN TO AND EXPANSION OF STANDPOINT:> *But I would not want to push too hard that* households are shifting spending around over time due to the interest rate. <EVIDENCE:> *Maybe I've seen too much survey evidence that* most households have no concept of compound interest and use a pretty short planning horizon <VERBAL IRONY:> *(or maybe my brain simply can't appreciate the beauty of macro models with high EIS or other household odd assumptions)*. <RETURN TO STANDPOINT; CLAIM:> *The guts of models deserve as much attention as their results*. [italics, tags in angled brackets, S.C.]

The final, unmitigated CLAIM is that, generally, all models that do not have a good fit with reality are rather academic: *The guts of models deserve as much attention as their results*. In the particular case at hand, strength (predictiveness of the model, or 'glory') might come from taking risks ('showing guts'; cf. the idiom 'No guts, no glory') and, more specifically, from focusing on the actual finances, behavior and whereabouts of UK households, as evidenced by several surveys (*Maybe I've seen too much evidence that most households have no concept of compound interest and use a pretty short planning horizon*). The general pragmatic effect accomplished via recourse to figurative language (*guts*) is efficiency (Colston 2015: 75-77). That is, multiple meanings are shared rapidly and readily: *guts*, a colloquial word, combines meanings such as 'the substantial content of' (OED: GUTS, *n.*: 1.c) and 'energy, courage and force of character' (OED: GUTS, *n.*: 1.d) with ability to express negativity, or a negative judgment about "*squirrel mechanisms of intertemporal substitution*" that are detached from reality.

Some kind of verbal irony is at work in the syntactically parallel, backgrounded parenthetical sentence (*(or maybe my brain simply can't appreciate the beauty of macro models with high EIS or other household odd assumptions)*). We know from experience that *odd assumptions* cannot be a property of beautiful (i.e., strong and elegant) models (*the* *beauty of macro models*). Critical evaluative edge and negative coding of *macro models with high EIS or other household odd assumptions* are reinforced via recourse to what can be readily interpreted as a rhetorical question, which adds to the expressing negativity pragmatic effect. On the other hand, backgrounding and speech-act mitigation (*maybe*) appear to downgrade criticism. Altogether, the parenthetical sentence comes across as a form of self-doubting and self-deprecating irony specifically intended to reduce tension and protect the author from negative blowback (Colston 2015: 72).

5. Conclusions

Our question was one about the socio-pragmatic effects of irony and related tropes on Tyler Cowen's Marginal Revolution blog. Though the analysis was exclusively qualitative and limited to very few manually selected examples, we hope we brought home some major points. Overall, we have seen, verbal irony and other figurative tropes are used to achieve a number of different purposes (Colston 2015, 2017). For instance, extreme evaluation (*Nonsense*), hyperbole and hyperbolic scenarios (as in *go up from $35 to the unthinkable level of $200 or $300 an ounce*; *as [it] shows quite clearly to anyone that has eyes to see*) serve the purposes of persuasion, expressing emotions and negativity, as well as highlighting discrepancies.

Certainly, expressing negativity is a clear move towards aggression, dissonance and non-alignment. Generally, however, active/core participants set aside aggression and attack, and express their opinion frankly (*I must disagree*) based on their credibility and expertise. On the one hand, experts do not make recourse to sarcasm; on the other, negativity expression management, social maneuvering and ingratiation are rare at best. This means that core/active participants do not need to adjust to the personality-related needs of their interlocutors. The focus lies on arguing one's standpoint and convincingly presenting opinions and objections, (non-)alignment and (dis)agreement.

Yet, self-doubting and self-deprecating verbal irony for social maneuvering, catalyzation, ingratiation and bonding are still available to relatively less active participants. Though personal preference and communication style do affect individual choices, recourse to hedging and relatively less assertive speech acts appears to reflect marginal or marginalized roles and blogging personas. As a matter of fact, the data suggests that bloggers who describe themselves as marginal or marginalized (e.g., *Quantitative Sneezing*) are not regular participants to online debates; nor are bloggers that when expressing their standpoint make recourse to self-deprecating irony for tension reduction (*or maybe my brain simply can't appreciate the beauty of macro models with high EIS or other household odd assumptions*). Another option would be to combine aggressive stance with irony reversal and corrective irony, as in the name *Troll me*.

Core participants and the animator in particular use irony differently. Conversation starters about quirks and events of the day are an important site for humor and persuasion, which emerge via masterful display of various linguistic strategies. For instance, an utterance like *Freedom of association for me and for thee. […] fashion designer […] announced she would refuse to sell […] clothes to […] Melania Trump* starts conversation by convincingly targeting both the situation and Melania Trump via language play on known expressions/idioms (*me and thee*) and biblical verses, as well as opposition and overlap of multiple scripts. Another example was *Or how about this criminal strategy?: hold on to the gold and perhaps in due time it will go up from $35 to the unthinkable level of $200 or $300 an ounce*. Here, expressing negativity towards the target (inept investors and the gold rush) and highlighting discrepancies ensue from efficient recourse to a combination of rhetorical question, irony or sarcasm (*in due time*) and a hyperbolic hypothetical scenario within the broader discussion about the economic strategies adopted by 007 villains.

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CHAPTER TWELVE

HACKING THE ‘CODE’: TRACKING THE IDEATIONAL ROOTS OF WEB-BASED HUMOR

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Abstract: Computer-Mediated Communication (CMC) has been associated with humor and language play more than other media (Vandergriff 2010). As part of a broader study on the ‘geekization’ of discourse, the present essay thus aims at tracking the ideational roots of web-based humor. More specifically, it will focus on the connections between on-line communication and hackers’ discursive practices and ethos. The reason for this is that many of the “practices and conventions of digital writing originated in hacker usage” (Danet 2001: 17). As a matter of fact, language has always played a key role in this community, not only because hackers love to inventively play with words, but also because their slang is a “code for shared states of *consciousness*” (Raymond, ed. 1993). The essay will start from the linguistic/semiotic analysis of a few examples of hackers’ irony and then concentrate on the conceptualization of code as language, “one of the central metaphors around which the discipline of computer science has been built” (Nofre, Priestley, Alberts 2014: 44). Finally, the essay will look for traces of this conceptual metaphor in the *Jargon File* / *The New Hacker’s Dictionary*, the comprehensive compendium of hacker slang published on the website of the Tech Model Railroad Club, a celebrated cradle of hacker culture (Isaacson 2014).

1. Introduction

Computer-Mediated Communication (CMC) has been associated with humor and language play more than other media (Vandergriff 2010). As a consequence, humor and language play have received growing attention in the relevant literature (Danet 1998, 2001; Crystal 2001, 2008; Herring

2001; Rouzie 2001; Walther, D'Addario 2001; Shifman 2007, 2014; Georgakopoulou 2011; Vandergriff 2014; Yus 2014; Gürsimsek 2016; Rotimi, Odebunmi, Adetunji, eds. 2016).

As a matter of fact, with the spread of social media, humor has become endemic, as it appears to be directly linked to the sharing of multimedia contents on social media platforms and to the creation of so-called viral phenomena (Berger, Milkman 2012). Indeed, humor has been identified as "the universal appeal for making content viral" (Ported, Golan 2006: 31) since, as Robert Provine (2000) highlighted in his treaty, laughter is a behavior that favors sociability, helps easing tensions and facilitates the creation of bonds in groups of people. In addition to that, Internet jokes appear to be key elements in "user-generated globalization" – that is the cross-national diffusion of contents by ordinary Internet users – and may also "serve as powerful […] agents of globalization and Americanization" (Shifman, Levy, Thelwall 2014: 727).

In her ethnographic study of digital writing, Brenda Danet, one of the pioneers of CMC, outlined how the origin of Internet humor might be traced back to hacker culture,[1] since many of the "practices and conventions of digital writing originated in hacker usage" (2001: 17). In line with Danet, the present essay aims at tracking the ideational roots of the above-mentioned playfulness in the connections between on-line communication and hacker discursive practices.

This study is part of a broader research on the *'geekization'* of discourse (Moschini 2016a, 2016b, 2016c), a process that encompasses three different analytical spheres: the linguistic and semiotic analysis of texts, the diachronic and synchronic study of the related socio-cultural contexts, and the semiotic analysis of software architectures. Indeed, hackers' ethical values and worldviews appear to be encoded both in the platforms created by this community and in the discursive practices favored by such platforms.

As regards our framework of analysis, linguistics (and multimodality) will be here used "as a heuristic instrument for the study of culture" (Hodge, Kress 1993 [1979]: 14), or better, for the cultural study of digitally mediated discourse. Indeed, the study of the ways in which language instantiates culture dates back to Firth (1935) and his advocating the use of linguistics to shed light on meanings shared by communities.

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[1] In this essay a *hacker* is "someone who enjoys playful cleverness, especially in programming" (Stallman 2002-2014); the term *geek* defines "an expert or enthusiast of any kind" (Raymond, ed. 1993) and conveys the popularized view of hackers' fanatic and obsessive stance.

The exploration of socio-cultural contextual factors will be grounded in analyses of texts performed with a combination of methodological tools. More specifically, the first part of the article will examine the dissemination process of the first world's viral video to investigate the change in the global digital situational context that has taken place in the last decade with the spread of social media – a change that appears to have favored the popularization of hacker/geek discourse and its ironical stance.

The essay will continue with the analysis of an iconic example of digitally mediated hacker irony. To this purpose, we shall use the neo-Gricean approach to the pragmatics of humor as theorized by Attardo (2000). The hybrid verbal/numerical nature of the code in the selected example will enable us to reflect on one of the epistemic pillars of computational culture. That is, the conceptualization of program instructions as language, which will be investigated with reference to Conceptual Metaphor Theory (Lakoff, Johnson 1980).

The linguistic conception of *coding* – which lies at the very heart of hackers' ironic use of codes – will be further examined through the analysis of the keyness (Scott 2015: statistical significance) of the word *language* in the *The New Hacker's Dictionary* (Raymond, ed. 1993), a comprehensive compendium of hacker slang. Keyness index and the lexical semantics of the word *language* are here intended as tools for the analysis of culture (Bondi 2010: 2). As regards the notion of *culture*, we will refer to Clifford Geertz's (1973) definition of culture as a semiotic system, or

> a historically transmitted pattern of meanings embodied in symbols […] by means of which people communicate, perpetuate and develop their knowledge about and attitudes toward life. (Geertz 1979: 89)

As a matter of fact,

> culture and cultural transmission without text or talk are impossible [since] the fundamental aspects of culture, namely the meanings attributed to objects, nature or conduct, essentially need 'language' to be acquired and transmitted. (van Dijk 2014: 169)

2. Going Viral

The dissemination of what is considered "the first world's viral video" (Siese 2016) will enable us to look into the process of popularization of hacker/geek discursive practices in relation to the spread of social media platforms, in that it features the *remediation* (Bolter, Grusin 1999) of a text from a niche community of amateurs to a dawning global medium. Indeed, it was December 2004 when Gary Brolsma, a young web designer from New Jersey, uploaded a video called *Numa Numa* to Newgrounds, a hosting service for independent (*indie*) games, animation, art and music.[2] The video was later posted on YouTube, gaining worldwide popularity and setting an emerging trend. In the video, a nerdish teenager lip-synched and danced along *Dragostea Din Tei*, a song by the Moldavian pop group O-Zone (2003).

Numa Numa might be understood as a semiotic artifact belonging to hacker/geek niche discursive environment for many reasons, the first of which is that its creator was a person who mastered technology: not only did he own a webcam in a period when it was not so common to have one, but he was familiar with video processing and uploading procedures before the development of social media made this activity user-friendly. In addition to that, Newgrounds – the virtual space where the video was uploaded – was originally the online version of a fanzine created by a web-game designer (Fulp 2016). Finally, the song was not popular in the US, despite being a top chart single in Europe at that time, and Gary Brolsma declared to have encountered it on Albino Blacksheep (Siese 2016), a creative content-sharing platform similar to Newgrounds. More precisely, he declared he had been inspired by *Maiyahi* (ikary 2004), a flash animation which used English and Japanese words that sound very close to the original Rumanian lyrics and associated them with Monā, a cat-like character created with Shift JIS (a superset of ASCII characters encoding Japanese language), which was very popular on Internet forums (Tomberry 2000).

The Numa Numa video was posted to YouTube a few months after Gary Brolsma uploaded his video to Newgrounds, since the social media platform was founded only in April 2005. This passage from a niche community of gamers to the global video-sharing platform – or, more specifically, from a geek eco-system to the rapidly rising social media eco-system – marked the transformation of Numa Numa into the first viral video and helped establish a generic tradition.

The progressive shift of visualizations from the original Web 1.0 'closed' community to the global Web 2.0 social media is outlined by the comparison between the timeline in Figure 1 and the one in Figure 2. The two screenshots show the crawling activity (that is the indexing) of the Internet Archive Wayback Machine with reference to the two webpages

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[2] URL: http://www.newgrounds.com/portal/view/206373; retrieved from https://web.archive.org/web/20041211162602/www.newgrounds.com/portal/view/206373 (accessed 01-01-2017).

featuring the Numa Numa video. As the Wayback Machine web indexing activity is mainly based on rankings assigned with reference to the number of links pointing to a webpage (Leetaru 2016), the comparison of the two timelines diachronically shows an inversely proportional relationship between the hosting platforms.

Crucial to the creation of the viral phenomenon has been the role of the so-called *first followers* (Sivers 2010), as the Numa Numa video has generated many spontaneous parodies since its first appearance. The creation of the movement was fueled by a contest promoted by Brolma himself on YouTube,[3] a contest which introduced the marketing logic in what was previously the offspring of a relatively closed community of gamers and amateurs.

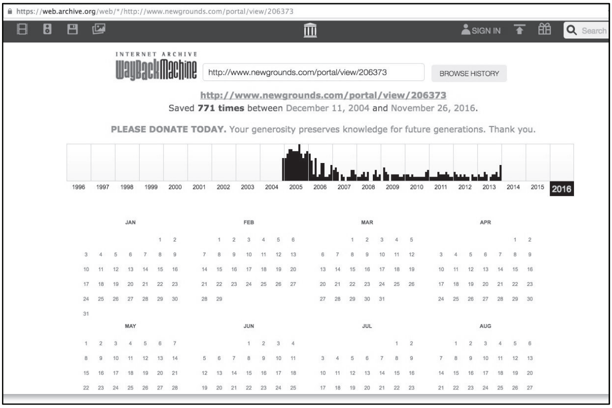

Fig. 1: Crawling activity of the Internet Archive: Wayback Machine[4]

[3] URL: https://www.youtube.com/watch?v=PHv5d735A3E (accessed 01-01-2017).
[4] URL: http://www.newgrounds.com/portal/view/206373, first scroll (accessed 01-01-2017).

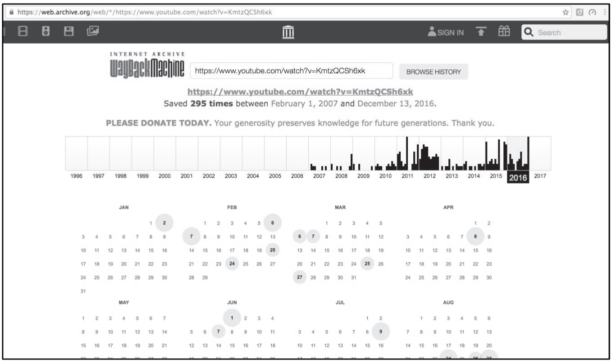

Fig. 2: Crawling activity of the Internet Archive: Wayback Machine[5]

3. Language, Code and … Towels

This section turns to another offspring from the world of gamers and amateurs. More specifically, we illustrate the case of hacker irony that is encoded in digital platforms turning to a hidden message which links science fiction to verbal irony and coding intertextually, and can be revealed only by following a specific sequence of inputs. The technical term to describe this type of covert contents is *Easter egg* (Tekinbas, Zimmerman 2006), an expression which purposely recalls the traditional Easter egg hunt and can be easily traced back to the world of gamers, since it was introduced in the 1970s by developers of software for videogames (Baker 2015). Easter eggs can be considered markers of the computer science community because the hidden messages are traceable only by people who are able to perform some specific actions, and also because the messages can usually be decoded exclusively by the members of this specific community. As regards the ironic component of such semiotic artifacts, Easter eggs are considered "funny, and entertaining [since] the pleasure they provide comes from the search of and discovery of these surprises or jokes" (Wolf, ed. 2012: 177).

The example selected is an Easter egg in a non-game software and, more precisely, on the Google search result page for the string *answer to life the universe and everything*.[6] Indeed, when typing in the search box,

[5] URL: https://www.youtube.com/watch?v=KmtzQCSh6xk, first scroll (accessed 01-01-2017).

[6] URLs: https://www.google.it/webhp?sourceid=chrome-instant&ion=1&espv=2&ie =UTF8#q= answer+to+life+the+universe+and+everything;

the first ranked result is always given by the activation of the math calculator displaying the number *42*, as shown in Figure 3.

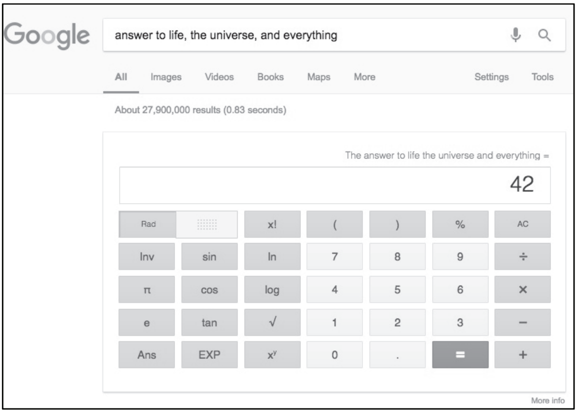

Fig. 3: Google search result page for: *answer to life the universe and everything*

The string is a memorable phrase from the science fiction novel *The Hitchhiker's Guide to the Galaxy. A Trilogy in Four Parts* (1992 [1979]), by the English author and humorist Douglas Adams. In the novel, as in the 1978 original BBC radio series, a supercomputer named Deep Thought is tasked to provide *the answer to the great Question of Life, the Universe and Everything*. After seven and a half million years of calculation, the revealed answer is *forty-two*:

> 'Forty-two' said Deep Thought, with infinite majesty and calm. […]
> 'I checked it very thoroughly,' said the computer, 'and that quite definitely is the answer. I think the problem, to be quite honest with you, is that you've never actually known what the question is.' (Adams 1992 [1979]: 128)

The sentence marks the central joke of the book and has been referenced and parodied in online science fiction fan communities since the early days of the *Usenet* (Stickmeister 2011). It has been also defined the "world's greatest universal joke" (Gill 2011) and has been celebrated since 2001 when – two weeks after Adams' unexpected death – a user named Clyde (R. Clyde Williamsson) proposed in an open source forum to establish May 25 as the "Towel Day" to "pay homage to his genius"

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https://www.google.it/search?q=answer+to+life,+the+universe,+and+everything&gws_rd=cr&ei=3zRtWNXuEMyUqWwvPgB (accessed 01-01-2017).

(2001). On that day, fans are encouraged to carry a towel with them, “the most massively useful thing an interstellar hitchhiker can have” (Adams 1992 [1979]: 31).

This celebration has become extremely successful, as shown by the diverse activities and artifacts created by fans all over the world (http://towelday.org), including an official NASA Towel Day Poster (Figure 4).

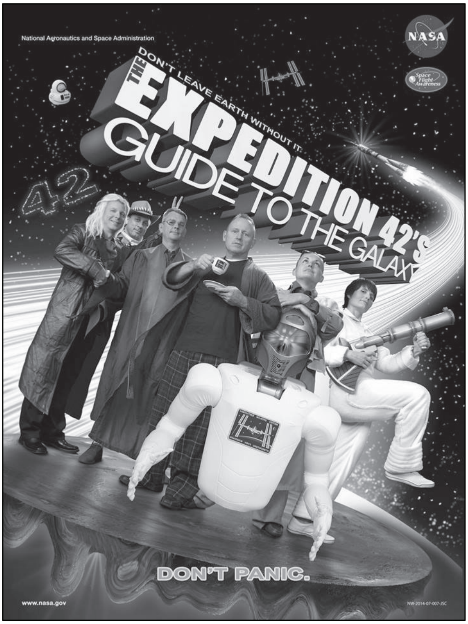

Fig. 4: Towel Day Poster from ISS Expedition 42 Crew, May 25 2015. Image credit: NASA[7]

Going back to Google’s Easter egg, irony appears to be created at the linguistic level by what Salvatore Attardo calls *relevant inappropriateness* (2000). In his Contextual-Appropriateness Theory of Irony, which extends Grice’s (1975) Maxim of Relevance, he defines an ironical utterance as both inappropriate and relevant to its context:

[7] URL: http://sen.com/news/towel-day-greeting-from-the-iss (accessed 01-01-2017).

> It is possible to define as ironical an utterance that, while maintaining relevance, implicitly or explicitly violates the conditions for contextual appropriateness, either deictically or more broadly in terms of the knowledge by the participants of the opinions and belief systems of the speakers. (Attardo 2000: 817)

In the example selected, the search engine Google provides the context for the communicative act and the contextual violation that has been encoded by those who have developed the Easter egg is a semiotic one. As a matter of fact, while relevance is maintained at the semantic level by the reference to Adams' novel, the search engine automatically activates the calculator, which is an application usually triggered by mathematical expressions (for instance, *3*4*), as the first ranked answer to the verbal quotation.

In addition, the quotation from the novel presents a dual nature since the Problem-Solution textual pattern (Hoey 2001) is partially realized by a verbal code (the "answer to life, the universe and everything" search) and by a mathematical code that is Google calculator's numerical solution. The corollaries to this hybrid nature of the message are at least two: first, the calculator is textually realized as the "multimodal metaphor, [that is a metaphor] whose target and source are each represented exclusively or predominantly in different modes" (Forceville 2006: 384) of Deep Thought, one of the greatest computers "in the universe of time and space" (Adams 1992 [1979]: 120), thus framing the image of Google itself as the 'supreme' computer able to offer answers to humanity.

The second corollary is that the Easter egg realizes at textual level an ideational homogeneity between the verbal code and the numerical one that might be considered an example of the metaphor CODE IS LANGUAGE which is, as we shall see in the next paragraph, one of the epistemic pillars of computational culture.

4. Conceptual Shifts and Mythologies

In Cognitive Linguistics, grammar (or syntax) is symbolic in nature in that conventional symbolization of semantic structures (Kövecses 2010). Also, a *conceptual metaphor* is a metaphor in which a conceptual domain, the source domain, is understood (at least partially) in terms of another conceptual domain, the target domain (Lakoff, Johnson 1980). In the metaphor CODE IS LANGUAGE, *code* (computer programming) is the source domain, conceptualized in terms of the target domain, *language*.

According to Nofre, Priestley and Alberts (2014: 44), the conceptualization of computer programming as a linguistic activity is "one of the central metaphors around which the discipline of computer science has been built". The metaphor emerged in the mid-1950s, when programming activities, from being considered mere tools or set of instructions for machines, started to be conceptualized as linguistic artifacts and became new epistemic objects. As they point out, such a paradigmatic "shift in the metaphorical use of the word *language* in connection with computers [was part] of a cybernetic discourse that described modern computers as if they were semiautonomous, almost human-like images" (ibid.: 41, emphasis in the original). Indeed, communication between computational machines and human beings began to be framed in linguistic terms, and the notion of translation was conceptualized as the strategy to be used to bridge the gap between programming languages and machine instructions. As a consequence, in the 1960s the writing of programs was conceptualized as a linguistic activity, and the language metaphor progressively acquired "a more abstract meaning closely related to the formal languages of logic and linguistics" (ibid.: 41).

In this context, Figure 5 gives a visual representation of the metaphor making reference to the translation process: it features a robot-like illustration used to explain the function of A2, a compiler, used on a mainframe computer during a summer course at the MIT in 1954. The image shows the translation activity performed by the compiler, from a human readable and understandable programming language into another language "easy for the computer to understand".

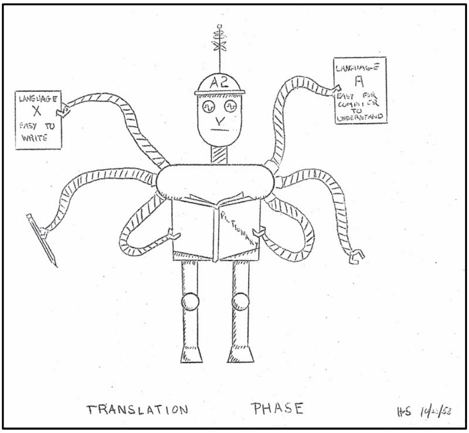

Fig. 5: Illustration of A2 compiler for use of the UNIVAC computer (Adams, Gill, Combalic 1954: 37)

The conceptual metaphor CODE IS LANGUAGE is still widespread in the world of computer science and in that of hackers in particular, where an inventive and conscious use of language (both natural and formal) marks belonging to a loosely connected network of people who share mythologies and values that are largely a rejection of ‘normal’ values.

Hackers’ libertarian stance (Moschini 2013) resonates with the ‘legends’ shared by this community, mostly derived from the world of fantasy (Brand 1972) and from science fiction, of which they appreciate the “contempt for centralized authority” (Brand 1995). Indeed, as Raymond (ed. 2015) points out, some important “hacker jargon originated in Science Fiction fandom”, such as the very term “cyberspace”.

A brief quantitative analysis of the *Jargon File* (Raymond, ed. 1993) will help us shed light on the connections between the linguistic conception of computer programming, the realm of hackers’ humor and their ethical values. The *Jargon File* (or *The New Hacker’s Dictionary*) is a comprehensive compendium of hacker slang published on the website of the Tech Model Railroad Club, “one of the celebrated cradles of hacker culture” (Isaacson 2014: 202). It can be seen as both an anthropological treatise and a technical dictionary, since it describes “the language hackers use among themselves for fun, social communication, and technical debate”, with the aim of “illuminating many aspects of hackish tradition, folklore, and humor” (Raymond, ed. 1993). It is also fundamental for a cultural/linguistic analysis of hacker culture since “the DNA of a culture is to be found within its language and the lexicon is a salient core that is transmitted from generation to generation” (Bagasheva 2012: 117), and “dictionaries are cultural mines, from whose words and phrases we can extract the juice of [a] culture” (Facchinetti 2012: 6).

In order to further prove the relevance of the coding metaphor in hacker culture, *The New Hacker’s Dictionary* has been analyzed in order to highlight the keyness of the word *language*, or its statistical significance in the text compared to a reference corpus (Scott 2015: 236). More specifically, the online 4.4.7 version of the *Jargon File* (2015) was processed with Laurence Anthony’s *AntConc* 3.4.3, while Mark Davies’s *Corpus of Contemporary American English* (COCA) was used as the reference corpus.

The *Jargon File* is a small specialized corpus composed of 242,831 word tokens and 18,458 word types, of which approximately 75% is low-frequency content words (LFCWs) with keyness < 2 and 31.5% is hapax legomena. This is fully coherent with the structure of a dictionary.

The first high-frequency content word (HFCWs) is *hacker* (frequency: 603; keyness: 214.985), while *language* features a keyness index of 83.42

and a frequency of 234. Near synonyms, inflected forms and the terms semantically related to the word *language* (e.g., *jargon*, *speech*, *syntax*) are all high-frequency content words (HFCWs). On the semantic level, *language* is used to refer to the 'linguistic code' in only 10% of the occurrences; in the remaining 90% it denotes the *code*, i.e. 'programming language' (see Figure 6).

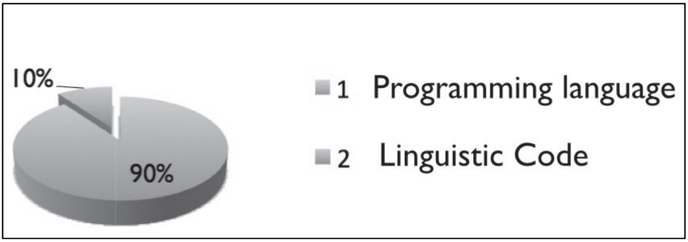

Fig. 6: Relative distribution of the conceptual metaphor CODE IS LANGUAGE in the *Jargon File* 4.4.7 (2015)

The above-mentioned metaphor can help us understand more deeply why humor saturates the hacker's world: a hacker is someone who applies ingenuity to create a clever technical result, and humor (especially in its ironic form) is a performative act that allows hackers to show their creative selves because it involves play with form (Coleman 2013). A key example is provided by the well-known geek phrase *There is no place like 127.0.0.1*, which parodies the more popular sentence *There is no place like home*, in its turn the ending line of the song *Home Sweet Home*, written in 1822 by the American author John Howard Payne.

In the geek version, irony is generated by the substitution of the content noun *home*, with all its physical and affective connotations, with cyphers that indicate the *local host*, a virtual address that marks every local machine. On the lexico-grammatical level, the substitution establishes a functional homogeneity between the linguistic and the numerical code; on the semantic level, the reference to the popular motto activates a metaphorical interpretation of the numerical code extending its semantic domain. To a geekish audience, the sentence might sound as 'the best place to be is in front of your personal computer', which resonates with the passionate and obsessive stance of hacker culture.

Humor can also help us understand the ideational connections between cleverness, linguistic skills and hackers' ethical values; indeed, the hacker community is bound to "a way of life, a philosophy, an ethic and a dream" (Levy 1984) and these ethical values provide a

> mix of aesthetic and pragmatic imperatives: a commitment to information freedom, a mistrust of authority, a heightened dedication to meritocracy, and the belief that computers can be the basis for beauty and a better world. (Coleman 2013: 17)

In this context, elegant and smart use of language, be it verbal language or mathematical code, is proof of cleverness and marks the belonging to such a community and the sharing of its values.

5. Final (Memetic) Remarks

We wish to conclude the essay with the analysis of a document that appears to encapsulate all the concepts we have been examining. The text that we selected is a CMC act and, more precisely, is an *Internet meme*, that is a "multiparticipant creative expression [which is part of] a group of digital content units sharing common characteristics of content, form, and/or stance" (Shifman 2014: 177).

The meme, which is shown in Figure 7, features a picture of the actor Ian McKellen dressed up like his fictional character, the wizard Gandalf, checking his emails in the backstage of the movie *The Hobbit*: *An Unexpected Journey* (2012), based on J. R. R. Tolkien's (1937) novel *The Hobbit*.

Fig. 7: Tech Support Gandalf Meme[8]

The text is an example of the popularization of hacker irony that, from secluded forums, has started to circulate on social media in the last decade.

[8] URL: http://imgur.com/STrUKPc (accessed 01-01-2017).

The picture was originally published in March 2014 on Reddit, a social news and media aggregator website, by a user named Miraclefish.[9] Since then, users on different platforms have started to associate sentences to the image, playing on the polysemy of the word *wizard*. Indeed, while the most common meaning of the term refers to the typical figure in legends and fairy tales of a man with magical powers, the term features a secondary meaning in the technical jargon of computer science, where it defines software packages that automate complex tasks by interacting with users through a sequence of dialogue boxes.[10]

On the textual level, the Intersemiotic Cohesive Devices of correspondence (Liu, O'Halloran 2009) seem to structure the reciprocal logical relation between the visual and the linguistic components of the message and reformulate them at different levels of abstraction and generality. As a matter of fact, the co-contextualization of the image and the verbal text appears to anchor the visual portrayal of the fictional wizard to a more restricted 'technical' form of wisdom, through the reference to a 'standard sentence' which users can experience in their dialogic relationship with software assistants.

Ideationally, this multimodal pun connects technical/consumer jargon to the fictional wizard created by J. R. R. Tolkien, an author that has deeply fascinated hackers (Brand 1972), and might be considered an additional access door to hacker/geek mythologies and their related libertarian values.

More broadly, it seems that hacker irony, even in this popularized version of memetic web-humor, offers a privileged channel for investigating the cultural logic of the information age as it is encoded in many linguistic and software artifacts: a logic (and a practice) that is defining "the conditions of possibility of all knowledge" (Foucault 1973 [1970]: 168) in contemporary global digital culture.

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[9] URL: https://www.reddit.com/r/pics/comments/20iiln/gandalf_checks_his_emails_behind_the_scenes_in/?sort=new (accessed 01-01-2017).

[10] See, e.g., WIZARD, NOUN, 2. *computing*: A help feature of a software package that automates complex tasks by asking the user a series of easy-to-answer questions (EOLD: https://en.oxforddictionaries.com/definition/wizard).

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