

Toward an Integrated Approach to Narrative Generation

Emerging Research and Opportunities



Takashi Ogata



Toward an Integrated Approach to Narrative Generation:

Emerging Research and Opportunities

Takashi Ogata

Iwate Prefectural University, Japan

A volume in the Advances in
Linguistics and Communication
Studies (ALCS) Book Series



Published in the United States of America by
IGI Global
Information Science Reference (an imprint of IGI Global)
701 E. Chocolate Avenue
Hershey PA, USA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@igi-global.com
Web site: <http://www.igi-global.com>

Copyright © 2020 by IGI Global. All rights reserved. No part of this publication may be reproduced, stored or distributed in any form or by any means, electronic or mechanical, including photocopying, without written permission from the publisher.
Product or company names used in this set are for identification purposes only. Inclusion of the names of the products or companies does not indicate a claim of ownership by IGI Global of the trademark or registered trademark.

Library of Congress Cataloging-in-Publication Data

Names: Ogata, Takashi, 1958- author.
Title: Toward an integrated approach to narrative generation: emerging research and opportunities / by Takashi Ogata.
Description: Hershey PA : Information Science Reference, [2020] | Includes bibliographical references.
Identifiers: LCCN 2019006807 | ISBN 9781522596936 (hardcover) | ISBN 9781522596943 (softcover) | ISBN 9781522596950 (ebook)
Subjects: LCSH: Discourse analysis, Narrative. | Narration (Rhetoric)--Data processing. | Narrative inquiry (Research method) | Natural language processing (Computer science) | Computational linguistics.
Classification: LCC P302.7 .O47 2020 | DDC 808/.036--dc23 LC record available at <https://lcn.loc.gov/2019006807>

This book is published in the IGI Global book series Advances in Linguistics and Communication Studies (ALCS) (ISSN: 2372-109X; eISSN: 2372-1111)

British Cataloguing in Publication Data

A Cataloguing in Publication record for this book is available from the British Library.

All work contributed to this book is new, previously-unpublished material.
The views expressed in this book are those of the authors, but not necessarily of the publisher.

For electronic access to this publication, please contact: eresources@igi-global.com.



Advances in Linguistics and Communication Studies (ALCS) Book Series

ISSN:2372-109X

EISSN:2372-1111

Editor-in-Chief: Abigail G. Scheg, Western Governors University, USA

MISSION

The scope of language and communication is constantly changing as society evolves, new modes of communication are developed through technological advancement, and novel words enter our lexicon as the result of cultural change. Understanding how we communicate and use language is crucial in all industries and updated research is necessary in order to promote further knowledge in this field.

The **Advances in Linguistics and Communication Studies (ALCS)** book series presents the latest research in diverse topics relating to language and communication. Interdisciplinary in its coverage, ALCS presents comprehensive research on the use of language and communication in various industries including business, education, government, and healthcare.

COVERAGE

- Forensic Linguistics
- Discourse Analysis
- Sociolinguistics
- Computer-Mediated Communication
- Graphic Communications
- Interpersonal Communication
- Language in the Media
- Cross-Cultural Communication
- Non-Verbal Communication
- Dialectology

IGI Global is currently accepting manuscripts for publication within this series. To submit a proposal for a volume in this series, please contact our Acquisition Editors at Acquisitions@igi-global.com or visit: <http://www.igi-global.com/publish/>.

The Advances in Linguistics and Communication Studies (ALCS) Book Series (ISSN 2372-109X) is published by IGI Global, 701 E. Chocolate Avenue, Hershey, PA 17033-1240, USA, www.igi-global.com. This series is composed of titles available for purchase individually; each title is edited to be contextually exclusive from any other title within the series. For pricing and ordering information please visit <http://www.igi-global.com/book-series/advances-linguistics-communication-studies/78950>. Postmaster: Send all address changes to above address. Copyright © 2020 IGI Global. All rights, including translation in other languages reserved by the publisher. No part of this series may be reproduced or used in any form or by any means – graphics, electronic, or mechanical, including photocopying, recording, taping, or information and retrieval systems – without written permission from the publisher, except for non commercial, educational use, including classroom teaching purposes. The views expressed in this series are those of the authors, but not necessarily of IGI Global.

Titles in this Series

For a list of additional titles in this series, please visit:

<https://www.igi-global.com/book-series/advances-linguistics-communication-studies/78950>

Applied Linguistics for Teachers of Culturally and Linguistically Diverse Learners

Nabat Erdogan (University of Central Missouri, USA) and Michael Wei (University of Missouri-Kansas City, USA)

Information Science Reference • ©2019 • 504pp • H/C (ISBN: 9781522584674) • US \$195.00

Language, Power, and Ideology in Political Writing Emerging Research and Opportunities

Önder Çakırtaş (Bingöl University, Turkey)

Information Science Reference • ©2019 • 206pp • H/C (ISBN: 9781522594444) • US \$185.00

Deep Semantics and the Evolution of New Scientific Theories and Discoveries

Tom Adi (The Readware Institute, USA) Hala Abdelghany (City University of New York, USA) and Kathy Adi (Readware Institute, USA)

Information Science Reference • ©2019 • 281pp • H/C (ISBN: 9781522580799) • US \$185.00

Argumentation and Appraisal in Parliamentary Discourse

Ernest Jakaza (Midlands State University, Zimbabwe)

Information Science Reference • ©2019 • 302pp • H/C (ISBN: 9781522580942) • US \$195.00

Post-Narratology Through Computational and Cognitive Approaches

Takashi Ogata (Iwate Prefectural University, Japan) and Taisuke Akimoto (Kyushu Institute of Technology, Japan)

Information Science Reference • ©2019 • 521pp • H/C (ISBN: 9781522579793) • US \$225.00

Elicitation Strategies for Interviewing and Fieldwork Emerging Research and Opportunities

Rodney J. Clarke (University of Wollongong, Australia)

Business Science Reference • ©2019 • 169pp • H/C (ISBN: 9781522563440) • US \$155.00

Assessing the Effectiveness of Virtual Technologies in Foreign and Second Language Instruction

Mariusz Kruk (University of Zielona Góra, Poland)

Information Science Reference • ©2019 • 300pp • H/C (ISBN: 9781522572862) • US \$175.00



701 East Chocolate Avenue, Hershey, PA 17033, USA

Tel: 717-533-8845 x100 • Fax: 717-533-8661

E-Mail: cust@igi-global.com • www.igi-global.com

Table of Contents

Preface	vi
Introduction	ix
Chapter 1 What Are Narrative Generation Phenomena?.....	1
Chapter 2 Areas of Narratives or Narrative Genres.....	59
Chapter 3 Narratology and Post-Narratology	162
Chapter 4 Theoretical or Philosophical Considerations for an Integrated Narrative Generation Approach	315
Conclusion	404
About the Author	430
Index	431

Preface

In the book entitled *An Introduction to Informatics of Narratology: Toward the Thoughts and Technologies of Narrative Generation* (T. Ogata & A. Kanai, 2010, Tokyo: Gakubunsha), the authors presented the concept of “informatics of narratology” or “post-narratology” from the viewpoint of narrative generation or narrative generation systems to discuss the expanded forms of previous narratology and literary theories. In continuation of this work, the edited book *Computational and Cognitive Approaches to Narratology* (T. Ogata & T. Akimoto, 2016, PA: IGI Global) included several papers that provide a concise and systematic version of the *Introduction* book. Subsequently, in *Content Generation Through Narrative Communication and Simulation* (T. Ogata & S. Asakawa, 2018, IGI Global), the authors showed an integrated approach of narrative generation study that combined concrete narrative analyses and system architectures. Further, recently, the authors published two related books containing many papers by the author and other researchers, *Informational Narratology: Artificial Intelligence/Cognition/Social Process and Narrative Generation* (T. Ogata, Y. Kawamura, & A. Kanai, 2018, Tokyo: Hakutō Shobō) and *Post-Narratology Through Computational and Cognitive Approaches* (T. Ogata & T. Akimoto, 2019, PA: IGI Global).

Throughout these works, the author’s narrative generation study, which was represented using terms such as “informatics of narratology,” “post-narratology,” “informational narratology,” and “expanded literary theory,” has been constructed as a systematic and synthesized research framework that encompasses the areas of design, development, usage, and distribution of systems from the perspective of philosophical thinking or holistic planning. As the research has not been completely finished as planned, it is difficult to describe all of the contents of the research in short papers. This book, *Toward an Integrated Approach to Narrative Generation: Emerging Research and Opportunities*, aims to describe as systematically, synthetically, and comprehensively as possible the author’s narrative generation study, using

Preface

“informatics of narratology” and other terms. In addition, this book contains the relatively conceptual parts of narrative generation study. Meanwhile, the next book from the same publisher, *Internal and External Narrative Generation Based on Post-Narratology: Emerging Research and Opportunities*, will include analyses, technologies, applications, and internal and external developments regarding narrative generation. Therefore, in these two books, the overall structure of the author’s narrative generation study will be shown.

BOOK ORGANIZATION

This book is composed of the following four main chapters and introductory and concluding chapters.

Chapter 1 (“What Are Narrative Generation Phenomena?”) introduces an idea that deals with narrative phenomena as the integration between the individual level, or narrative generation and reception system, and the social level, or narrative production and consumption system. This idea is called the “multiple narrative structures model.” It is one of the most important concepts in the author’s narrative generation study. Next, this chapter describes the future image of a human-machine symbiosis system that includes narrators (senders) and narratees (receivers) as artificial intelligence. Further, based on the concepts of “visible narratives” and “invisible narratives,” the author analyzes the narrative components or elements to consider methods for synthesizing the analyzed elements. This idea of analysis and synthesis of various narrative elements will be systematized in an “Integrated Narrative Generation System.”

Chapter 2 (“Areas of Narratives or Narrative Genres”) presents a tentative and large categorized system of narrative genres, namely, a “narrative genre system.” This system is related to the division of the objects or materials of research and analysis in the synthetic narrative generation study based on computational methods. Throughout this book and the sequel, the author consciously uses many Japanese narratives, such as *kabuki*, that include both universal narrative characteristics and local or cultural features. Nonetheless, this narrative genre system is also constructed using many Japanese narrative genres as concrete materials. The narrative genre system includes the following five categories: (1) as a work in the narrow sense, (2) as a work in the broad sense, (3) as social and emergent phenomena, (4) as invading real phenomena, and (5) as human physiological and psychological phenomena. In

each explanation, after the corresponding narrative genre category is defined and explained, a concrete genre under the large genre category is treated for discussing the characteristics.

Chapter 3 (“Narratology and Post-Narratology”) describes the narratology or post-narratology that synthesizes and develops various narrative-related studies, including previous narrative research, narrative and narrative generation studies in the broad sense, and narratology and literary theories. This chapter presents various narrative studies in the broad sense and then surveys narrative and narrative generation studies in the narrower sense. Further, dependent on these backgrounds, the author surveys the fields of narratology and literary theories. Meanwhile, as a cultural approach, this chapter refers especially to Japan’s literature. In summary, dependent on the above topics, this chapter presents the concept of post-narratology, the expanded literary theory in the author’s previous term.

In Chapter 4 (“Theoretical or Philosophical Considerations for an Integrated Narrative Generation Approach”), although narrative philosophy or thought represents the fundamental concept supporting this study, a point different from the previous studies relating to narrative philosophy is to aim to make products in the technological field of narrative generation systems, instead of philosophy or thought about narrative itself. From the viewpoint of philosophy or thought, narrative generation systems are applications. In contrast, from the goal of narrative generation systems, philosophy or thought corresponds to a kind of strategic framework for establishing vision, strategy, and direction. In particular, the first philosophical concept is “expanded literary theory.” This concept has similar meaning to the concepts of “post-narratology,” “informational narratology,” and “informatics of narratology” that the author has presented in previous works. The next concept is the “multiple narrative structures” mentioned above. The author also addresses the following three concepts: “circular narrative control,” “norm and deviation,” and “fluidity and fixation.” They are not concepts that are respectively independent of one another. These philosophical concepts build the dynamic characteristics of narrative generation through their interrelations.

Takashi Ogata
Iwate Prefectural University, Japan

Introduction

This chapter is the introduction of the book. It shows the significance and importance to humans and societies of narratives. The author would like to address in relationship to the contexts of the author's personal story and narrative. These are compressed into an integrated research system. Thus, in the story and narrative of the author's narrative generation studies, the concept of "an integrated approach toward narrative generation" emerges. This book mainly deals with related research fields including narratology and literary theories, artificial intelligence and cognitive science, and social sciences, narrative genre classification from this narrative generation study, new narratological ideas, and philosophical concepts regarding narrative generation.

The following description provides the flow of this introduction chapter. First, in **NARRATIVE: ITS SIGNIFICANCE AND IMPORTANCE**, the author discusses the significance and importance of narratives and narrative generation for humans and societies. Next, in the context of the story or narrative of the author, the history of the author's previous narrative generation study is described from two viewpoints, i.e. personal and technological or academic viewpoints. This description also shows that the author pursued a different road from many other narrative studies.

First, **AUTHOR'S RESEARCH HISTORY: PRIVATE PERSPECTIVE** provides the overview of a personal history to show how "I," as the author, reached the position of the current study in which narrative or literature and computer or AI are combined through the concept of narrative generation. This description is related to the motivation for the narrative generation study in the deepest level. Further, in **AUTHOR'S RESEARCH HISTORY: TOWARD AN INTEGRATED APPROACH TO NARRATIVE GENERATION**, from more academic and technological perspectives, the author describes the process and results of the narrative generation study to indicate the entire framework and current problems related to the content of this book.

The author has an opinion regarding books as media. In contemporary academia, the main medium for the report of research results, especially in scientific and technological areas, is the academic journal. Papers submitted to academic journals play the role of evaluation standards for each researcher. However, as the entire systematic construction of all research is also emphasized in the academic areas of humanities and social sciences, research presented in the form of a book is still recognized as valuable. Although the author's main publication media are ordinarily academic journals and conferences, the author considered the presentation of this research in the form of a book to be important for the systematic and synthetic features of the narrative generation study. Books are a good medium for systematically and synthetically describing a study.

Although the topic of “synthetic approaches to narrative generation through system-oriented books,” will be described in the next book, *Internal and External Narrative Generation Based on Post-Narratology: Emerging Research and Opportunities* (Ogata, in press), this book, *Toward an Integrated Approach to Narrative Generation: Emerging Research and Opportunities*, attempts to complete systematically, synthetically, and entirely a part of the author's narrative generation study including the research backgrounds, basic ideas, and philosophical ideas.

NARRATIVE: ITS SIGNIFICANCE AND IMPORTANCE

In the 25th chapter *Hotaru (Firefly)* of *Genji Monogatari (The Tale of Genji)* written by Murasaki Shikibu (c. 970~978-c. 1019, 1993, 1994, 1995, 1996, 1997) about 1,000 years ago, Hikaru Genji first chides Tamakazura, who is passionate about reading stories or narratives, but within the flow of the conversation, one variety of a defense of narratives develops—one that compares narratives with histories, and comes up with the pet theory that narratives contain more truths about humanity than does histories. Similar logic has been traced back to Aristotle (384 BC-332 BC) (1997), who lived over 1,300 years before *Genji Monogatari* was written, where it is claimed that narratives that talk about what may have been possible or what may yet be possible contain more truth than talk about a single incident from histories. These mean that a narrative can be a model of the world and a tool for the abstract representation of the world.

Conversely, in recent times, Shiller (2017) presented “narrative economics” as a chairperson of the American Economic Society, and based on the global historical context of President Trump's emergence and China's strengthening

Introduction

imperialistic tendencies, he emphasized the importance of the concept of narratives within societal analysis. Not limited to this, research and ideas that capture society from a narrative point of view have been carried out in the study of history, cultural anthropology, folklore studies, and other fields. Furthermore, a narrative approach has also been tried in business administration. Such an academic situation, in a society composed of a large number of people, shows that the concept of narrative is, rightly or wrongly, utilized as a mental integration principle at the macro level, and this also shows that society's micro-relationships such as conversations among individuals can more easily be interpreted using stories as mediators. In these cases, even if narratives are types of stories and narration, they function.

Even in various disciplines targeting individual mental activities, as Aoki (2017a, 2017b) originally suggested, "narrative" has long been an important concept, and even from the days of Karl Jaspers (1883-1969) et al., the basis for psychiatric diagnoses has been intimately linked with narratives. In particular, Sigmund Freud (1856-1939) recognized the importance of the narrative from his earliest psychological clinical experience (Hasegawa, 2015). That dream analysis (Freud, 1900) uses the process of creating a kind of narrative rhetoric, centered on transformation and synthesis in a dream's narrative, as a pillar of the description. Recent neuropsychanalysis (Kishimoto, 2015) developed from Freud in the sense that it interactively aligns psychoanalysis and neuroscience, but even neuropsychanalysis actively continues to perform research on narratives within dreams (Solms, 1997).

As described above, the concept of narrative has exerted a strong influence on a wide range of fields, from the humanities such as literature (and art and entertainment), to social studies, psychiatry, and psychology. Interestingly, these areas cover or overlap with almost all areas that Gardner (1986) defined as the scope of cognitive science. The interdisciplinary approach that cognitive science and Artificial Intelligence (AI) have had as their characteristics from the beginning, are characteristics that share the common feature of narratology. From this point as well, the whole framework that allows access to narratives across a wide range of areas, from science to the humanities (humanities and social sciences), has the potential to be improved as a fusion of cognitive science and AI. Furthermore, if we use Takaaki Yoshimoto's (1924-2012) terminology that the author quotes several times in this text, each narrative functions in the areas of "communal-illusions," "pair-illusions," and "self-illusions," and through their interaction, we can say that our mental activities, that is to say, actions attached to meanings, are supported.

Of course, beyond the scope of “academics” in a narrow sense, narratology, described later, is not just an academic field established early in the twentieth century. In its wider meaning, discourses like narratology and literary criticism have obviously been prevalent since ancient times. Even in Japan, including the genealogy of theoretical literary criticism by Sōseki Natsume (1867-1916) (2007) and Takaaki Yoshimoto (1965), there exists a pedigree of methodical narratology and literary criticism, of which Zeami’s (1363-1443) discourse on *nō* plays (Zeami Zenchiku, 1974), Chikamatsu Monzaemon’s (1653-1725) “*kyojitsu hiniku ron*” (a theory that the appeal of art lies in the slender margin between real or truth and unreal or fiction) written by Hozumi Ikan (Koretsura) (1692-1769) (*Naniwa Miyage*, 1959), Kyokutei Bakin’s (1767-1848) “*haishi shichisoku*” (seven narrative techniques for long novels) (Watanabe, 2012), Shōyō Tsubouchi’s (1859-1935) theories on novels and drama (Honma, 1932), Riichi Yokomitsu’s (1898-1947) “pure novel theory” (1986), the various literary theories of Yukio Mishima (1925-1970) (2010) and Kōjin Karatani (1941-) (1993), the various narrative theories of Kenji Nakagami (1946-1992) (2004) and Shigehiko Hasumi (1936-) (2014), and Naomi Watanabe’s (1952-) (2012) discourse on crafting novels or narrative techniques comprise but a small portion. Anthologies of modern Japanese literary criticism, which are seen as literary theories and narrative theories, are published by Chiba and Tsubouchi (2003, 2004), Watanabe (2017), and Ōura (2017).

As mentioned above, narratives have come to be noticed as objects of research and criticism beyond simply being the objects of practical use from ancient times. It is an intrinsic human ability to systematically arrange or edit one or more events, and to use narration in order to interpret and construct the world. Also, while it was created thusly, as Kanai wrote in the preface in (Ogata & Kanai, 2010), narratives, in their essential sense as a universal phenomenon, are literally fundamental to human existence, and are not to be passed by, ended, or started or revived by random circumstances and trends. For example, a narrative, in the first place, is not something that is so easy to end (or to start), as with “the end of grand narratives” (Lyotard, 1979) or “the end of a story marketing,” as the world pretentiously says. Also, there are no individually disconnected narratives, like “grand” narratives or story “marketing” (Fukuda, 1990).

Throughout this book, narratives are discussed from various perspectives. Here, the author will examine the following three points, which are important for the author’s research on narratives, but the author will let you know in advance that even in the subsequent chapters of this book, related descriptions and discussions will be repeated through variations and restructuring.

- (1) **Global and Local Narratology**
- (2) **Narratology as Narrative Generation, or Narratology for the Purpose of Generating Narratives**

First, the author will talk about the global preference toward local theories about narratives. The first thing the author would like to say is that the academic concepts of the term “narrative” have come to be used in narratology, even if minor details vary. Since one of the most important foundations of the author’s research is in the theory of narratives, it is fundamentally based on discussions regarding it. Narratology is a research field that has focused strongly on the universal and general characteristics of narratives in general, and the author has come to be strongly influenced by it. That is, if you use narratology as an intermediary, you can approach all narratives in the same manner. The author has been fascinated by such potential. On the other hand, on the basis of this, the author’s thinking has shifted in the way laid out below, and this has recently started to become one of the important points within the research on narratology. The author will discuss it here.

Needless to say, narratives are also exceptional cultural products, and the author has also long sought to build Japan’s own cultural narratology, including performing arts (or *geinō*) theory, folklore studies, and *kabuki* studies. While the author has been advancing research on narratology and narrative generation, at the same time, the desire to create a narratology rooted in Japanese culture and folklore lies at the very foundation of the author’s thinking. Originally, there was no need to venture into the cognitive science of cultural theory. To begin with, it was born into a particular environment and culture, and for individuals who had no choice but to be affected, even if there are complexities, it would of course be better to have a cognitive science of cultural theory. At the same time, in the current world where there are waves of various forms of globalization, starting with languages and economies, it is important to consciously recognize the “folklore” of each culture, and to protect it so that it can be inherited by future generations. This means that the kind of battles that were once fought by former researchers of Japanese folklore, such as Kumagusu Minakata (1867-1941), Kunio Yanagita (1875-1962), and Shinobu Orikuchi (1887-1953), may be called for even more today. In the author’s case, this involves ways of thinking based on cognitive science and AI. In other words, the author’s particular variety of narratology is made up of “(so-called) narratology + (Japan’s) cultural narratology + (narratology within) cognitive science and AI.” In this way, with regards to what a narrative is, it is not necessarily only demonstrated by narratology in

its narrow sense, but especially in Japan, folklore studies and entertainment research have traditionally debated what narratives are in various situations and contexts, and compared with the great amount of definitions of functional and structural narratives in general narratology, this theory is thought to emphasize emerging theories of social contexts.

As mentioned above, the author's primary research intention in recent years has been to examine the concepts, ideas, and methods of our own local narratives and narrative theories, while considering the concepts, ideas, and methods of global narrative theories having a universal orientation. And while including local things, and using them as a base, we construct global and local narrative theories that show general and universal methodological possibilities.

Next, the author will discuss the subject of narratology as narrative generation, or narratology for the sake of narrative generation. One of the reasons for taking this idea is the so-called pan-generalist narrative view that the author holds. The author takes the view that understanding, interpreting, and critiquing narratives are also forms of narrative generation. In the cognitive scientific model of the human perception-recognition-action process, the generation of a narrative receives some kind of input information (from fragmentary stimuli to a more comprehensive set of information) from the world and the environment (that includes humans). It is creating new information on the basis of that, but a narrative's reception (understanding and interpretation) does not change the formula. In that case, human beings generate information such as understanding and interpretation based on the input information = narrative. Normally, input (reception) information being a narrative, so to speak, is turned into a privilege. Or, for example, in the case of "emphasizing the reception by the audience," the last "action" in the above model is omitted from the process, either intentionally or unintentionally. For example, when it is declared in certain marketing studies that "an advertisement should be created to make a recipient (the audience) embrace 'a certain mood (feeling)'," analyzing and examining the audience's sensibilities will be carried out in various ways that are common, but the audience is prescribed in advance as being just a feeling, and a narrative's criticism and interpretation from the mood or feeling is not seen as a proactive output. The existence of the reception and feeling itself is considered a priori. Thus, from the author's pan-generalist point of view, even though the reception of a narrative, the situation emerges where a new narrative is generated.

In the latter half of the twentieth century, the power of reception theory, reader-centric criticism has been strong in narratology, and speaking of narratology, the author even felt that it is a narrative reception theory. The

Introduction

idea of reception theory is often incorporated into modern marketing and advertising theory (Kawamura, 2019). It puts the receiver's position at the center of the issue as to the effect on the receiver or recipient of information and what the understanding, interpretation, and reaction the recipient of information will show. However, with the effect of the recipient being input information, within the framework in which the sender sets up a generation strategy that controls it in some way (strengthening, sustaining, changing, etc.), the one that generates the information is clearly part of the equation. Also, strengthening the interaction between them, there is also the idea that importance is attached to the aspect of the narrative that the recipient makes. Alternatively, the reception theory of Hans Robert Jauss (1921-1997) (1970) in the original meaning of rewriting the history of literature by reception theory, suggested that the story of the history of literature is a concept created from the experiences of (group of) readers, but if the reading experience is turned into a narrative by a collection of various impressions (including criticism), reception is linked to generation or creation in this case as well.

Contrary to the above, the author takes the position that all of narratology should be a narrative generation theory. Alternatively, the concept of generation is centered on narratives and narratology. Of course, it is true that there are various levels of narrative generation, and in the sense that Yutaka Haniya (1909-1997) (1976) refers to the "relay of the mind" and as Yoshimoto (1965) advocated the history of literature as a chain of peaks of linguistic expression with *What is Beauty in Language?*, there is a distinction between the level of narrative generation as reception and the generation of narratives as the productions based on it. However, in the end, the author thinks that narrative generation as creation or production is driven by the generation of narratives as reception. That is, narrative generation as an intrinsic reception drives the generation of narratives as an externalized generation. Rather, the author's narratology as narrative generation places the externalized narrative generation aspect of the latter as a basis for narrative generation.

Narratology as narrative generation is useful in considering the following social narrative production phenomenon. For example, in the Edo era in Japan, *kabuki* showed a socially uninhibited and prolific creative power. In terms of the relationship between the concept of or fluidity or flow and fixation that the author advocates (Ogata, 2010) (to be described in detail in Chapter 4 in this book and Chapter 4 in the sequel (Ogata, in press)), in the creation and performance of *kabuki* plays, there exists something known as the base text or standard edition. In other words, even when working in a social system lacking the concept of copyright, fixation was a rare occurrence within the

continuing flow. At the same time, while the social repression of *kabuki* was strong, the creators and actors worked under this pressure to create the work. One work of *kabuki* was fixed as one variant of previous works, but while it had value as a fixed work, it also had value as a kind of fluid sacrifice. In other words, it was significant and valuable in the sense that the work became one variety that was absorbed, merged, and transformed into other works or groups of works. However, in such a fluid situation, *kabuki* has not dissipated. Perhaps in Japanese theatrical history, it is one of the most admired forms of performance art, and a large number of such performed works are still frequently created, fixed, and externalized to this day. Even in the minds of individuals, plots, and concepts of previous stories are swirled together, and only parts of them take a fixed form. The process of repeating stories that have not converged into a given form—created, broken, and created again—is a mental fluctuation related to the generation of story by flow and fixation mediated by social repression (censorship) and psychological repression (censorship). This is established in the same way for fixed narrative generation as well. However, from within the flow phenomenon of such chaotic narratives, sometimes a great fixed narrative is externalized, and it is important that this will act as a kind of standard for the subsequent acceptance of personal and social narratives.

As mentioned above, even in personal narrative generation, organic linkages between reception and generation can be seen. For example, Ōae (2017) sets the notion of passive generation (synthesis), based on Edmund Husserl's (1859-1938) work, as a fundamental concept in considering Autism Spectrum Disorder (ASD) and developmental disorders. For example, when a person is looking at a flower, the viewer's concept of "self" disappears, and the image of the flower rises to the top (passive creation). After that, an introspective and active consciousness is produced in the viewer of the flower. However, according to Ōae, in the case of some kinds of developmental disorders, this passive creation does not occur, and a phenomenon is generated in which active consciousness directly intervenes in external stimuli. In this case, there is no mental activity that intuitively senses beauty. Thus, in this case, "passive creation" can be said to have a more positive significance than "active creation." However, in the case of the author's narratology as narrative generation, the author stresses the linkage between the two, namely, the creation of a fixed narrative through such fluid narrative generation. From the author's point of view, understanding, interpreting, and critiquing a narrative is also forms of narrative generation. Generating a narrative takes some information (including a large bundle of information from fragmentary

Introduction

stimuli) from the world/environment (including the human part), and although this can be thought of as a framework for creating new information, reception in this case is an act of generating new narrative information in ways such as understanding, interpreting, and criticizing. However, further from that point, narrative generation as creation occurred, and that will again function as a basis for narrative generation as reception, and attaching importance to the power of this fixed and externalized narrative, and this story-making process is a feature of the author's narratology research.

The author is looking forward to further advancing consideration of a concept that could be called a pan-generalist view of narratives. The author considers eventually eliminating the framework of interaction between the receiver and the sender itself (mutual control, mutual communication). If you think that a unit of a narrative generates a narrative from some kind of input (which is not necessarily external information), whether the unit is a receiver or a sender in the communication of a narrative, for example, both are generating a narrative based on the same type (scheme). In this way, unless you first consider the framework of narrative generation as mutual communication between sender and receiver, subjects named recipients and subjects named senders also generate their own narrative in the same way. If there is communication or interaction between the two, it is better to consider it a special case. In this way, narratology as/for narrative generation is based on the most prototypical generation level which does not necessarily require sender-receiver communication. If the above-mentioned framework of the three illusions theory of communal-illusion, pair-illusion, and self-illusion of Yoshimoto are invoked, phenomena occurring such as communication and interaction between the sender and receiver of the story, control of the recipient by the sender, or follow-up to the recipient of the sender, are phenomena at the pair-illusion and communal-illusion levels.

When it comes to engineering and science, in many cases the knowledge is turned into a kind of a communal illusion. In other words, it is objectivized and systematized, and the necessity of understanding the author's thought systems and theories within individual papers is considered to be less than in the case of the humanities and social sciences. Also, the writing itself (its form) is not important, but rather, its content is considered to be important. However, the author's narrative generation research is strongly linked with the humanities and social sciences as a cognitive science featuring an interdisciplinary character. In addition, the degree of systematization and objectivization of knowledge is low, and the degree of communal-illusion is even lower, since it does not inherit existing research but contains ideological and philosophical

elements. Therefore, regardless of whether the author actually uses that phrasing or not, the author has continued systematic considerations on the above-mentioned narratology as narrative generation or narratology for the sake of narrative generation and its accumulated contents. Interested readers can refer to Ogata (1992, 1995, 2003a, 2003b), Ogata and Kanai (2010), Ogata, Kawamura, and Kanai (2018), Ogata and Akimoto (2016, 2019), and Ogata and Asakawa (2018).

AUTHOR'S RESEARCH HISTORY: PRIVATE PERSPECTIVE

I (in this section, the author uses “I”) have had an interest in stories, narratives, and literature for quite a long time. But before that, my interest was instead in medicine and railways. As a child, I had a desire to be a doctor in particular, while at the same time I was also very interested in railroads, but my interest in railroads was put into more of the hobby category. The so-called “dramatic event” that decisively focused my interest on narratives and literature was the suicide of Yukio Mishima on November 25, 1970. In my own discussion about Mishima (Ogata, 2018), I mentioned my personal experience, so I will not repeat it here. However, it is not necessarily accurate that my interest in narratives and literature suddenly became decisive starting on that day, or starting with that event. Even when in the previous year, Yasunari Kawabata (1899-1972) received the Nobel Prize for literature, I was more interested in Kawabata as a winner of a “literature” award than simply interested in Kawabata as a Nobel Prize winner. In addition, my interest in both literature and narratives in general strengthened. However, before that, it would also not be accurate to say that I had a concrete interest in literature and narratives. In other words, although it is certainly true that I was a boy who liked to go to libraries such as the one at school, I remember there were not necessarily many literary boys or girls around. Rather, I felt that being like that was a kind of weakness.

In my case, what was more central was probably my interest in people. In other words, I have to this day consistently continued to be more interested in studies focusing on humans (and society) than on scholarship focusing on nature and animals. Both medicine and railroads are closely linked to the results of science and technology, and cannot be achieved without them. If you focus on that point, they are science and engineering, but it is impossible to consider the purposes and practices of these if the human element is removed from them. That is, they are human science and technology.

Introduction

Regarding stories, narratives, and literature, rather, it seems that the task of writing and expressing something, or even creating (and imagining) something, had formed the essence of interest in them. Then, starting with Yasunari Kawabata winning the Nobel Prize for literature, my interest started to manifest itself, and the case of Yukio Mishima became decisive for me. Even without those incidents, my interest in the narratives and literature may have manifested as a result of some other incident, but on the other hand, I think that there was also the possibility that I may have become a doctor, for example. What is important here is that my interest in literature and narratives was not manifested in the form of, for example, wanting to become a professional writer. It started to manifest itself through the work and functions that I had. In addition, Ogata (2010) includes a personal history concerning my reception of various kinds of knowledge, centered on literature and narratives over the period of over ten years since then. The personal “reading history” in it was described with the intention to show the flow state to eventually be fixed in some way in the creation of a narrative. Chapter 4 in the sequel (Ogata, in press) contains revisions to this chapter, but the description of this reading history would suggest organizing for the production of narratives using future narrative generation systems.

So, if there is a purpose in my life, and it is connected to narrowing my own potential down while building up (only) the part that has been narrowed down, and for me, that ability to focus on such a goal seems to have been lacking. This is naturally associated with the problem of choosing an occupation, and with an attitude of extreme fear of job-based limitations. In relation to that notion that was popular in Japan at that time, it was surely in the spirit of “immaturity.” Being in that unenviable situation is being known as a “NEET” (not in education, employment, or training) or a “*hikikomori*” (shut-in).” Trying extremely hard to avoid that kind of thing, in the current climate of wanting to diagnose and isolate such immature youths, I may even have been labeled as abnormal. Although, as mentioned above, I did not as a child wish to take up writing as my profession, I wanted to surpass the professional sphere and become a writer as a symbol of something. For me, titles such as “author” and “writer” seemed almost the only alternatives to allow me to barely escape the modern forces that limit scope, specialization, and potential. That seemed like a pretty unique stance. Wanting to be a writer was, therefore, an impossible hope for me, and it was a label to express that I would become a nobody. For me, the word “writer” may overlap with the Japanese word “*yosutebito* (recluse).” Soon after entering university, I scoured the books at a used bookstore, and I believe that this where my enthusiasm

for reading Yutaka Haniya's works started. In addition, after extensive reading of Japanese classics in junior high school, from around the second half of high school, by skipping Haruki Murakami (1949-) and other authors that many young people have been reading since then, so-called "post-war authors"—Taijun Takeda (1912-1976), Hiroshi Noma (1915-1991), Kazumi Takahashi (1931-1971), and others—were possessed by a desire that cannot exist in those who are not immature; those who "will write everything in the world" ("*zentai shōsetsu* (entire novels)"). That is the reason why I became engaged in reading what these authors wrote. (These writers are now entirely alienated from the scope of reading as entertainment or reading as a culture.)

In this way, I entered the faculty of social sciences at my university with the aim of becoming a nobody (*yosutebito* or recluse), and to drive myself as far away as possible from the "so-called" literature and narratives of that time. I took part in a commemoration of the study of a field which I neither tried to make a future career nor a target of research, and even before graduation, it was beyond my imagination to have a social occupation that would restrict me, so I lied to people around me that I wanted to go into publishing and mass media. In fact, I even declined several job offers by publishers and newspaper companies. In this context, while I was holding egotistical wishes like "not supporting creators, but being a creator myself" and "not limiting the scope of my interests, but making the best use of what I have without limits," I remember not having such words at that time, and became a NEET shortly after graduating from college. A few months later, I entered a small software development company in Yokohama where I grew up. In fact, although my plan had a setback, before graduating from high school, I actually wanted to go straight to working for a software company without going to college. Perhaps, at the time, I would have been able to enter those companies straight from high school, and yet the developing software development industry was intellectual and creative (or so I thought). In other words, I was a programmer or systems engineer. It seems that as a high school student, I caught sight of some help wanted advertisements in newspapers. Those occupations are superficially distant from narratives and literature, but in such meaning as "universal technology without limiting the scope" and "work created by oneself", they turned out to be close to the occupation of "writer."

In the end, my engagement in the software field was delayed more than six years, but after graduating from university, in the first two years and a short period, I first worked on developing a large-scale computer program. Then, I transitioned to system development on medium-scale UNIX machines. I further moved on to an artificial intelligence system research and development

Introduction

job dealing with personal computers. At that time, Japan was entering a period known as the second AI boom. Japan, then the world's second largest economy, launched a "new generation computer" R&D project imbued with national prestige, where elite researchers and engineers from major universities and large corporations came together to participate. In this dynamic social context, I began to be possessed by the delusion that the world of AI and my interest in stories and literature could be compatible. Despite the twists and turns, at a new software start-up's Shibuya office, I began going to the AI research and development department. At that time, the company ported over the Common Lisp processing system (Golden Common Lisp, GCL), running on IBM PCs developed by a company spun out from MIT, to Fujitsu's 16 β personal computer, and a project was underway to create a Japanese version of the GCL environment. I became a member of the R&D project, and translated the training system (tutorial) for Common Lisp written by Professor Patrick Winston at MIT into Japanese. I also worked on porting it to the Japanese GCL environment, along with simple animations. The project was largely successful, and for a long time, I continued to participate in the Japanese version of the Goldworks R&D project, a tool developed by the same company for use with expert systems. At the same time, I participated in several other projects, including the development of expert systems.

During my experience with these AI jobs, I had the concept of "a narrative generation system using artificial intelligence." I had come to believe that it is the most powerful means of embodying my interest in narratives and literature. I discussed a document named the "Literature Machine Project" (a systematic description that covers literature machines, specifically from the research and development of narrative generation systems to social and artistic development) with Mr. Masafumi Fukagawa who was an advertising department employee of the same company that came from Kyushu University's doctoral course of philosophy at the time. (After that, at the Kawasaki City civic museum, Mr. Fukagawa was active as a museum curator specializing in photography and contemporary arts and actively pursued writing.) Mr. Fukagawa and I also had exchanges such as when he showed me the manuscripts of a classic book *For the Philosophy of Photography* translated from German and written by philosopher and media analyst Vilém Flusser (1920-1991). This manuscript (Flusser, 1989) was then published by a publisher, Keisō Shobō. In addition to Mr. Fukagawa, I also repeatedly discussed AI and literature machine projects with Mr. Kiyooki Yazawa, now a professor of business administration at Senshū University. In any case, it is important that in my late 20s (in the 1980s), my

interest in various fields relating to narratives and literature was first shaped as a “literature machine” and a “narrative generation system” and took on a comprehensive and systematic form from the beginning.

In other words, my narrative generation system research was organized from the beginning as a systematic research and development initiative. With respect to the means or medium of expression, a thesis is not an appropriate means for expressing the systematic nature of an object, or to express the content or results of a study in relation to its systematic integrity, and for that reason, I believed that books are the best means of doing so, and worked hard trying to draw up a systematic vision of research in several books, including in my master’s thesis and in doctoral dissertations. This will be discussed later in this chapter. These compositions differ, and there are also collections of papers collected by authors other than me. However, as a systematic narrative generation study, it is divided into the philosophical and ideological considerations of narratives and narrative generation, the narrative analysis of various genres, the design and development of narrative generation systems and the ways to apply them, and the social development and distribution of research and development. This composition was first described in private, unpublished documents related to the “Literature Machine Project” mentioned above.

In a more essential sense, why are systematic R&D or “books” necessary? When creating a novel research area, since it is impossible to locate individual papers within the system of existing research areas, one of the necessities is that you must first build up the system itself. You can say that this system is a context. Constructing the context itself is an important and indispensable task in studies that do not fall within existing contexts or in studies that you do not want to put in existing contexts. Of course, in promoting actual research activities, the so-called top-down system construction work and bottom-up individual achievement work will be carried out mutually at the same time.

If there is another necessity, it will be as follows. Although the novelties of science and technology are going to wear off one after another, there is also the idea that rather important in the medium of books are the meanings and the descriptions of the meanings of their research and development. In other words, it is important to provide a systematic description of the total consideration and analysis work performed to achieve the final results, if it is substantial, even if the outcomes themselves become immediately outdated, the research itself can survive, possibly resulting in future results by their successors. The versatile artist and thinker, Japan’s Tetsuji Takechi (1912-1988), was also involved in the production of *kabuki*, and wrote

Introduction

many theses about *kabuki*, but during the compilation of the manuscripts (Takechi & Yamamoto, 2017), the editor Kichinosuke Yamamoto expresses the essence of Takechi's *kabuki* theory as classicism, or New Objectivity. This movement is, in a nutshell, a "return to the original text." For Takechi, the original text is supposed to be in the plays themselves, for example, in *ningyō jōruri* (traditional puppet show). They are already old, and many of the devices and ideas that were new at the time that they were written have not been able to endure, yet from the entirety of each play itself, Takechi tried to draw out the newness that can be understood by audiences in the present day, and in fact, we have been able to newly commence production of classical *kabuki* in the modern era. I would like to bequeath the entirety of my research in the form of a "book" to future generations, so that it may continue to live on in posterity.

AUTHOR'S RESEARCH HISTORY: TOWARD AN INTEGRATED APPROACH TO NARRATIVE GENERATION

This section provides an explanation of narratology, computational narrative knowledge, and narrative generation systems according to a research framework at the macro level. In other words, this section shows the author's research history that aims at an integrated approach to narrative generation based on the author's research framework of narrative generation. In addition, the following description is based on the corresponding parts in Chapter 1 (Ogata, 2016) in Ogata and Akimoto (2016) and Chapter 2 (Ogata, 2019b) in Ogata and Akimoto (2019).

Research Framework

From the viewpoint of narrative generation, the author surveys a novel area of computational and cognitive narratology (or expanded literary theory or post-narratology) to give a large sketch, plan, or framework for the overview in the next parts.

The term "narrative" is ordinarily interpreted as a type of linguistic representation in which two or more events are temporally combined. However, according to narratology, a discipline that explores characteristics, forms, and functions common to narratives (Prince, 1982, 2003), the concept of narrative can also be understood as a special form of language, based on a variety of rhetorical devices, involving multiple relationships between a narrator (sender)

and a narratee (receiver or recipient). This interpretation of narrative is based on a view of narratology that considers complex relationships between a narrator and a narratee. As indicated above, a narrative text consists of two aspects: that of a sequence of events, and that of communication. Broadly speaking, the former and the latter correspond to the story, referring to what is narrated, and the discourse or narration, which is how the story is narrated, respectively. “Story” and “discourse” or “narrative discourse” are partial words that are included in the word of “narrative.”

A story is defined as a temporal sequence of events, while a narrative discourse is related to the various ways in which a story can be edited, reconstructed, and narrated. In this sense, a story has a structural and abstract aspect, whereas a narrative discourse contains a structural and abstract aspect, as well as surface linguistic aspects. The co-existence of these aspects never leads to a contradiction, nor is it a consequence of the ambiguity of definition. A narrative work is a mixed presentation or system consisting of these two aspects, and the ratio between them is variable. In the most extreme cases, if only a story or only a narrative discourse exists, a narrative can still be formed. In other cases, the story and the narrative discourse are the two essential elements. The various adjustments form a narrative.

Furthermore, from a broader perspective, the term “narrative” has been used in the fields of philosophy and thought. For example, the term “grand narratives” introduced by Jean-François Lyotard (1924-1998) (1979) means a collection of systematic ideas or notions that are dominant in a society or age. The communal-illusion introduced by Yoshimoto (1968), which is a philosophical idea regarding human society that forms a set with other categories, e.g., pair-illusion and self-illusion, is a pioneering and more comprehensive proposition. The extension of his theory indicates that narratives in various levels, narratives of communal-illusions, narratives of pair-illusions, and narratives of self-illusions.

If narrative generation can deal with collective organization of information through social communication, it will be strongly related to the above broad ideas of narrative. On the contrary, the narratological approaches to human history proposed by Arthur Danto (1924-2013) (1965) and Hayden White (1928-2018) (1973, 1980) considered narrative a necessary concept for the interpretation of the human world and historical construction. By White, all historical texts were narrated using narrative rhetoric like fictional and artistic narrative works. In this sense, history is also a narrative genre.

Concepts also exist to deal with narrative from the point of view of its effects on the receiver and broader social functions. The main social functions of narrative proposed by Ogata and Kanai (2010) include aesthetic, political,

Introduction

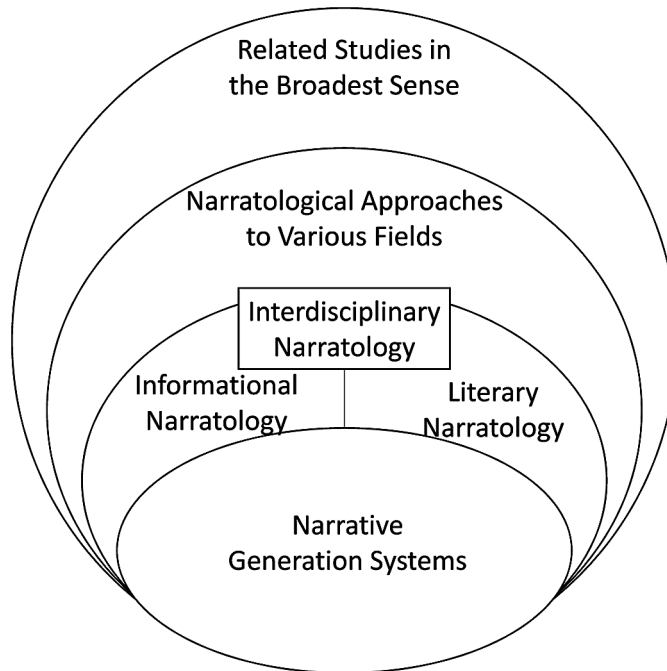
agitating, brainwashing, persuasive, institutional, normative, educational, religious, etc. From the standpoint of artificial intelligence (AI) research, Nakashima (2006) proposed that the value of constructive studies, such as AI, could be evaluated through a persuasive function as a consistent narrative or story. These examples show the broad variety of meanings assumed by the word “narrative.”

Next, what are narratology and literary theories? The largest overview of narratology is attempted. The major studies relevant to narratology and contemporary literary theories are Russian Formalism, English literary theories such as the New Criticism, and literary and cultural theories based on structuralism and post-structuralism. On the periphery, but in close connection with the above theories, are a variety of literary theories, including Marxist criticism, psychoanalytical criticism, feminist criticism, cultural studies, post-colonialism, and so on (Compagnon, 1998). Barry (2009) also provided a list of literary and cultural studies. From a broader perspective, one of the first systematic studies containing material that was called narratology was *Poetics* by Aristotle (1997). Although this poetic theory directly used Greek tragedy as the material, the description intended to develop a general, and relatively structural and formal narrative theory.

The following part deals with narrative generation system research as a synthetic framework from which to comprehensively treat narratives. Based on the recognition of multiplicity or plurality of narratives, the narrative generation research described in this book was conducted according to a broad framework, including a wide range of narratives, from narrative generation systems in a narrow sense, i.e., systems as computer programs, to narrative generation systems in a wide sense, i.e., systems as a method of dealing with collective societies of humans as a symbolic narrative generation system. As shown again in Figure 1, Ogata (1995), and Ogata and Kanai (2010) divided this comprehensive framework for research in narrative generation into five fields. In this book, the author refers to various levels of narrative generation-related studies in the multiple ranges shown in this figure.

- The core portion of this diagram covers **narrative generation systems** as computer programs. This area is directly related to the author’s technological goal.
- Beyond this area contains two types of **interdisciplinary narratology**: **literary narratology** (primarily narratology and literary theories) and **information narratology** (mainly AI and cognitive science).

Figure 1. A comprehensive framework for research in narrative generation
 Source: Ogata, 2016



- A new narratological area (interdisciplinary narratology,) created by blending both of these areas, has been also called “Expanded Literary Theory: ELT” (Ogata, 2002, 2014) or “post-narratology” (Ogata & Akimoto, 2019). These concepts will be described in especially Chapters 3 and 4 in detail as the discussion of extending previous narratology and literary theories.
- The next level contains a variety of **narratological approaches to various fields**, such as folklore, cultural anthropology, history, sociology, philosophy, psychology, marketing and advertising, business administration, architecture, biology, and so on. This book frequently refers to the above academic fields for the discussion and explanation of narrative generation study with multiple and hierarchical characteristics by the author.
- The outermost level consists of spaces occupied by various fields relevant to narrative (**related studies in the broadest sense**).

Introduction

Therefore, the description of narrative generation systems as computer programs is founded on this overall and comprehensive perspective of narrative studies. Additionally, the author needs to describe where the content of this book is covered.

Historically, human narrative generation, such as art, music, drama, novels, and films, has been closely connected to various technologies and media. The most recent point of connection from the viewpoint of this narrative generation study is its relationship to AI and cognitive science. Prior to proceeding to examine narrative generation in AI and cognitive science, the author refers to the problem of media and narrative. For example, the generation and development of modern novels were associated with the popularization of books by the invention of type printing technology. In addition, *kabuki* and *ningyō jōruri* are special, but universal examples of narrative. For instance, technological innovations in the stage settings in *kabuki*, which is a synthetic dramatic form, have contributed to the improvement of dramatic production. Literature and narrative are also not the exceptions. Equally novel, in the narrow sense, was the literary genre associated with the rise of the letterpress. Likewise, machinery or mechanical style itself in the arts and literature are not necessarily a drawback. *Ningyō jōruri* is an example in which artistic value is enhanced by using mechanical constraints in an underhanded manner, while *kabuki* borrows its scenarios and depicts extraordinary representative beauty based on the imitation of mechanical and artificial motions by human actors. For instance, in a scene from *Sugawara Denju Tenarai Kagami* (*Sugawara's Secrets of Calligraphy*) (1971) by Namiki Sōsuke (1695-1751), Takeda Izumo I (?-1747), and Miyoshi Shōraku (c. 1695-c. 1771), a work in *ningyō jōruri* tradition from 1746, an animated wooden puppet moves and, in the transfer to *kabuki*, a human actor plays the puppet through the use of machinery and artificial motion. Therefore, technological characteristics contribute to beauty in literature and the arts. However, narrative generation systems have a feature that renders them different from past participants in relationships between narrative and media technologies—the mechanization and automation of the process of creating narrative content. In the conventional methods of narrative generation from the past, humans conceived of and created narratives. In contrast, narrative generation systems think and create each narrative as an AI-based “thinking machine.”

AI and cognitive science are the most important areas in the field of informatics. AI is a branch of computer science that aims to design and develop intelligent software systems. Research in this area includes theories, technologies, and core and applicable systems. If AI is a field of constructive

engineering, cognitive science is a scientific approach that researches the principles of intelligence in human beings, animals, and machines in order to provide basic design knowledge for AI. In this sense, AI and cognitive science are complementary. The design and implementation of narrative generation systems that can automatically generate narrative texts has long been a well-known issue in AI and cognitive science.

As mentioned above, the concept of narrative has different meanings, owing to which research on narrative generation is necessarily interdisciplinary. In particular, research in AI-based narrative generation has a high affinity with narratology and literary theories, as this chapter will show here. Although previously narratology and a group of literary theories were often called “the science of literature,” this practice was problematic in the context of traditional literary studies because of the absence of systematic methods for precise and detailed analyses and experiments. By contrast, the practice of “the science of literature” is easy and natural from the point of view of using computational methods, such as AI and cognitive science, because this involves presenting systematic technologies for investigation or simulating narrative analyses and theories.

The following section describes various studies of interdisciplinary narratology in AI and cognitive science, emphasizing the interdisciplinary narrative study and the expanded literary theory and post-narratology by the author as pioneering attempts. With few exceptions, such as the narrative grammar proposed by Prince (1982), the field of literary research has witnessed few attempts at a conscious blend of informatics and literature. Although still emerging in the field of informatics, various approaches to such a combination have gradually appeared. Ryan (1991) explained the first narrative generation systems by AI researchers and related technologies in detail. Mateas and Sengers (2003) proposed the concept of “narrative intelligence” from a literary, interdisciplinary point of view, combined with AI. They also presented several narrative application systems. Stockwell (2002), Herman (2003), and Gavins and Steen (2003) presented methods to assimilate narrative theories to cognitive science, and Meister (2003) proposed a computational model that applied narratology to narrative action and mainly German philosophers, Immanuel Kant (1724-1804) and G. W. F. Hegel (1770-1831). Research by Ogata and Kanai (2010) provided a systematic and comprehensive description of the expanded literary theory of narratology and AI, the integrated narrative generation system, and other related issues. As stated above, researchers in AI and cognitive science have primarily been extending this interdisciplinary

Introduction

direction of research. This chapter reviews related research genres for more productive uses of narratological knowledge that have been accumulated by narratology and literary theories.

A Synthetic Approach to Narrative Generation

The themes related to the author's research and development are treated. This is a kind of structured research history of the author.

Two Basic Narrative Generation Architectures

The author developed two types of experimental narrative generation systems (Table 1). These systems were used as the bases of a synthesized narrative generation system, "Integrated Narrative Generation System: INGS" that will be described in detail in Chapter 1 in the sequel (Ogata, in press). The second system especially corresponds to the first architecture that is directly bridged to INGS. The Propp-based mechanism from the first system is used in INGS for generating relatively large narrative structures.

Development of Each Mechanism of Narrative Generation and the Integration

The author has designed, developed, and experimented with narrative generation systems according to several large modules based on the basic frameworks of the aforementioned narrative generation systems. The following main narrative generation themes in Table 2 show the macro level mechanisms that the author has been attempting to do, each of which is aimed at integrating them into INGS, which is an Integrated Narrative Generation System that shows the current achievement in the technological side of the author's synthetic narrative generation study.

As shown in Table 1, Ogata, Hori, and Ohsuga (1994, 1995, 1996a) proposed a basic narrative generative framework developed from a variety of stories based on narrative techniques, narrative strategies, and other knowledge bases. One direction of study is to integrate narrative knowledge and various techniques into an organically integrated narrative generation system (INGS). Previously, some conceptual and basic design (and the following narrative analyses) implemented an experimental integrated mechanism by using an organic combination in a consistent architecture based on past independent programs. This system is gradually and continuously evolving and developing.

Table 1. Two basic narrative generation architectures

System Concept	System Overview
Story Generation System Based on the Story Theory by Propp	An experimental system was implemented based on the theory, morphology of the folktale, by Vladimir Propp (1895-1970) (1968), which mixes story grammar with characters' actions (Ogata & Terano, 1991, 1992). A "function," which is a central concept in Propp's theory, means "an action of a character seen from the result." Propp showed 31 kinds of functions to show a structural feature in a genre of Russian folktales. This system grammatically forms the functions and the lower level events for representing more concrete possibilities as a set of basic knowledge for the story generation. Moreover, hierarchical planning (Newell & Simon (1972), which is sometimes used as a basic method of story generation in AI systems, and explanation-based learning (DeJong (1993, 2014), which is a learning techniques through generated story patterns are directly used in the next generation cycles, was utilized to generate the action sequences by a character. This system mixes three types of methods in AI, story grammar, hierarchical planning, and explanation-based learning and corresponds to the first concrete example of the expanded literary theory or post-narratology by the author.
Narrative Generation System Based on Narrative Techniques and Strategies	The aforementioned system bridges the implementation and experimentation of an integrated framework of narrative generation based on narrative techniques, narrative strategies, and other knowledge bases (Ogata, Hori, & Ohsuga, 1994, 1995, 1996a). This system is a generalized framework for organically collecting a variety of narrative generation methods and knowledge instead of performing a narrative generation by using only a particular method. A story and a plot constitute each tree structure, which has events as the terminal nodes. The constitutional elements in each event are associated to an element in conceptual dictionaries and to their instance. Narrative techniques are a set of rules for making such a tree structure, whereas narrative strategies have various rules for controlling the generation using the narrative techniques. Additionally, narrative techniques need knowledge for a particular narrative expansion. They contain concrete descriptive contents including many types of sequence patterns of narrative events, such as causal relationships, and scripts.

The fundamental structure was centered on earlier methods proposed, but the discourse and expression were expanded. The eventual goal was to develop a "versatile" narrative generation system grounded on an integrated architecture. Versatility here means that the system will be applicable to any purpose relevant to narrative generation without genre limitations. The theory by Propp (1968) was used as a mechanism, but its purpose was beyond the creation of folktales. Revisions of structural techniques and narrative content will enable a transformation of the genre. This involves the integration of certain elements: story phase, narrative discourse phase (using the theory by Gérard Genette (1930-2018) (1972) and the reception theory by Jauss (1970)), expression media, literary theories and informatics, and other diverse narrative techniques. The system is knowledge based with different steps of discourse and several expressions of language, music, and imagery. At each point, the process is executed with a variety of narrative techniques equivalent to functions used to construct various types of narrative structures.

Introduction

Table 2. Macro level mechanisms for narrative generation

Narrative Generation Phase	Overview
Story Generation Mechanism	<p>Redesigning and re-implementing the Propp-based story generation mechanism have been continued from the viewpoint of integrating it into an entire system, and then it was expanded to use conceptual dictionaries for the event generation. The author has also prepared a “story content knowledge base” to store the content knowledge to be used in the story techniques. The part of grammatical description in the Propp-based mechanism, the Propp-based story content grammar, is also considered as a kind of knowledge that can be stored. Moreover, the author has defined story techniques for connecting two or more events to construct a story or the parts. Studies in progress include the automatic acquisition of event sequence knowledge, such as scriptural event sequences, and detailed analyses of many advertising stories (Abe, Ogata, & Onodera, 2009) and Japanese folktales (Ogata, Fujiwara, & Imabuchi, 2014; Ogata & Fujiwara, 2015).</p>
Narrative Discourse Mechanism	<p>Regarding the narrative discourse phase in the deep or conceptual level, the author has studied the following individual theoretical components according to the narrative discourse theory by Genette (1972): “temporal order” transformation (Mukouyama, Shinohara, Kanai, & Ogata, 2002), “viewpoint”, “focalization”, or “perspective” (Ueda & Ogata, 2004a, 2004b; Akimoto & Ogata, 2015), “speed” or “tempo”, “distance” (Ogata & Yamakage, 2004), and “voice”. Currently, only a part of the temporal order transformation has been integrated. For the purpose of introducing them into INGS, more systematic considerations of some narrative discourse techniques will be needed in the future. In contrast, the reception theory by Jauss (1970) has also been adapted for the mechanism to control the use of narrative discourse techniques (Akimoto & Ogata, 2013). Moreover, different functions of the narrative discourse mechanism can explain and describe the elements of the generated story by the story generation mechanism. However, the author’s previous study to narrative discourse is necessarily fully integrated or comprehensive approach. A future topic to narrative discourse in the most macro level includes a systematic categorization of narrative discourse knowledge. It is necessary to organize the elements contained in the narrative discourse mechanism, including Genette-based techniques, Jauss-based techniques, and other types of discourse techniques to design and implement them systematically.</p>
Music Generation Mechanism	<p>The narrative generation concept by the author does not fix the generation order among the modules based on the philosophical concept of “circular narrative control” that will be described in Chapter 4. Although it is a concept that is commonly used through the entire narrative generation process, it has been experimented mainly through music generation mechanisms. The original and essential idea is that music can be generated by using narrative methods; by contrast, a narrative can be generated by using musical methods (Ogata & Kobayashi, 2004a, 2004b; Ogata & Akimoto, 2007). The author has considered different ways to achieve knowledge blending from mutual knowledge transformation. The author has set correspondence relationships between a story and a piece of music to come up with a basic mechanism for transforming a story into a piece of music (Akimoto, Endo, & Ogata, 2013). Although the “Generative Theory of Tonal Music: GTTM” (Lerdahl & Jackendoff, 1983) has been used partially, musical theories concerning composition and variation have not been fully introduced.</p>

continues on following page

Narrative Analyses

The author has analyzed narratives in genres shown in Table 3 to develop individual narrative mechanisms and application systems, before finally introducing them into INGS. They partially overlap with the theoretical frameworks of narratology and literary theories. In addition, the author’s main recent theme is surveying and analyzing *kabuki* to bridge them into the design and development of INGS and *Geinō* Information System (GIS) (Ogata, 2018). The analyses of *kabuki* for narrative generation will be described in detail in Chapter 2 in the sequel (Ogata, in press).

Table 2. Continued

Narrative Generation Phase	Overview
Narrative Knowledge Mechanisms	<p>Conceptual dictionaries of linguistic semantic knowledge and other types of knowledge were developed individually as various small-scale systems according to each of the purposes. Based on these ideas, for INGS, the author has developed relatively large-scale conceptual dictionaries for noun, verb, and other concepts (Ogata, 2015); the constituent elements in the structures of a story and a discourse are intended to connect to the elements of these conceptual dictionaries, such as the values of the case structure for an event. A group of these conceptual dictionaries is a fundamental part for basically supporting the system. The proper noun conceptual dictionary (Terada, Akimoto, Ono, & Ogata, 2014) and attribute or property information (Ono & Ogata, 2017) are also significant knowledge that will be added to the existing noun conceptual dictionary. The role of the attribute information is to store the properties that each noun concept includes. Moreover, a state-event transformation knowledge base (Onodera, Akimoto, & Ogata, 2012) was necessary to generate states based on a generated event. States should be placed in the lowest level in a story tree structure. Another type of knowledge mechanism is a group of narrative content knowledge that means fragmentary or modularized narrative knowledge elements to be used directly in a narrative generation process. The most important narrative content knowledge base (Akimoto & Ogata, 2014a) is story content knowledge base that includes through relatively macro-level story content units, such as Propp-based story grammar, other macro story patterns, abstract definitions of actions, and relatively micro-level story content units, such as scriptural event sequence knowledge for concretizing each abstract action's definition. Systematically constructing the narrative content knowledge bases means collecting and classifying a variety of narratological knowledge elements to organize them into an integrated narrative generation mechanism of INGS. In this sense, the narrative content knowledge bases are a most important mechanism in INGS from the viewpoint of expanded literary theory and post-narratology, further the entire narrative generation study by the author.</p>
Generation Control Mechanism	<p>For a narrative discourse, a control mechanism by a virtual narrator and narratee (Akimoto & Ogata, 2012, 2014b) applying the reception theory by Jauss (1970) was proposed. The author needs to consider collecting and acquiring the parameters for the narrative generation and how a narrative author should utilize the rules for linking the parameters to conduct concrete tasks for more strategic mechanisms of narrative generation. Moreover, the generation control in INGS is designed according to several philosophical concepts that the author will state in Chapter 4, in particular "circulative narrative control," "norm and deviation," and "fluidity and fixation." The Jauss-based mechanism is also related to the circular narrative control and norm-deviation. The fluidity-fixation is associated to the cyclic process between the exploration or flow stage of diverse possibilities of narrative generation and the stage fixed to one or more content(s). Furthermore, these are related to the social narrative generation phase in the multiple narrative structures model that plays the sequential generation of many diverse narrative contents.</p>
Language Generation Mechanism	<p>For generating a sentence from the conceptual representation of an event, templates for sentences were prepared and various mechanisms, including the procedures of word representation using inflection, multiple sentences generation method, Japanese representation method using language notation dictionaries for nouns and verbs, etc., were attempted (Kumagai, Funakoshi, Akimoto, & Ogata, 2012). For the improvement, it is necessary to fundamentally consider the problem of the boundary between conceptual representation level and language expression level. In addition, in the level of each word, there is the problem of readability or comprehensibility. In developing conceptual dictionaries and language notation dictionaries, elements with a variety of features about them are mixed. Moreover, as the author state in detail in Chapter 1, as a narrative content is a mixed work of invisible elements including a story and a plot and visible elements such as language representation itself, the language generation mechanism in INGS has the flexibility and expandability in the level of language generation. For instance, the language generation mechanism can theoretically many sentences or many words from a little units of narrative conceptual representation.</p>
Image Generation Mechanism	<p>Image processing was based on a primitive method that represents a simple image by mapping the conceptual representation of events to an image database and simple image scripts. At present, previous image-related studies, such as rhetorical analyses of image techniques (Kanai & Ogata, 2004a, 2004b) and a camera-work analysis of a movie (Ogata, Tachibana, & Tomite, 2009), are not considered in the system development. However, the author is developing a mechanism through which generated conceptual narrative is automatically transformed into CG representation. There are two directions of image processing. The first is the direction to aim at realistic and concrete image generation and, in another direction, symbolic and abstract image generation is pursued.</p>

Introduction

Table 3. Genres of previous narrative analyses by the author

Genre	Overview
Folktale	The narrative theory by Propp (1968) has been adapted to the analysis of Japanese folktales, aiming at developing grammatical knowledge of stories that was extended and generalized beyond Propp's theory. Moreover, the author applied the story generation mechanism based on the Propp's theory to the analysis of Japanese folktales to extend the variation of generated stories (Fujiwara, Ono, & Ogata, 2015). As another recent project in progress, the author is currently applying the motif analysis of Japanese folktales by Keiko Seki (1899-1990) (Seki, Nomura, & Ōshima, 1980) to formalized, fragmental story knowledge in INGS (Ono, Ito, & Ogata, 2019).
Short Story and Novel	(1) An analysis of the story and plot in a detective story (Ogata, Hori, & Ohsuga, 1996b) showed a relationship between mutual structural transformation and acquired knowledge being applied to the first fundamental narrative generation architecture (Ogata, Hori, & Ohsuga, 1994, 1995, 1996a). (2) An analysis of the hyper-text structure in a detective story showed that some different stories could be generated according to the viewpoints of several characters (Ishii & Ogata, 1998). Although the method by hyper-text structure has not been used on purpose in the author's previous narrative generation systems, its use will be made into a topic in the future, especially in INGS. (3) An analysis of the mutual cognitive structures of the characters in <i>Gogo no Eikō</i> [<i>The Sailor Who Fell from Grace with the Sea</i>] by Mishima (1963) indicated that one of the dramatic features in the novel was a result of the correspondence and contradiction (Oikawa & Ogata, 2012; Ogata, 2018). The characters have each of the recognitions of the world, and an actual narrative is constituted depending on the various techniques for multiple syntheses by each character. Introducing knowledge into INGS may be too difficult an issue at present. (4) Another is the analysis of character notation in Japanese novels. In Japanese notation in which <i>hiragana</i> (the Japanese cursive syllabary), <i>katakana</i> (one of the Japanese syllabaries), <i>kanji</i> (Chinese characters), and other characters types are mixed, a variety of notation styles give aesthetic effects to the readers.
Advertisement	(1) In an analysis of story structures in TV commercial films, the author showed that many scenarios in TV commercial films could be analyzed by using the same knowledge used in analyzing folktales and novels (Ogata, Watanabe, Hori, & Ohsuga, 1995); hence generation of advertising scenarios was achieved as an application of general narrative generation. (2) Analysis of rhetorical techniques for introducing a product into a TV commercial-like story showed techniques for differentiating a product in various methods (Abe, Ogata, & Onodera, 2009). A part of the narrative rhetorical techniques has been experimented as a mechanism of narrative generation. (This will be described in Chapter 3 in the sequel (Ogata, in press).) (3) In a new project in progress (Ito, Sasaki, & Ogata, 2018; Ono, Sasaki, Ito, & Ogata, 2018; Ono, Sasaki, & Ogata, 2019) that the author is participating, diverse feelings that advertising creators want to give to the audiences are comprehensively and systematically collected through actual advertisement films. The aim of the author is to bridge these parameters to a generation mechanism using INGS.
Movie	(1) For an analysis of the narrative discourse, the author analyzed movie works made by a complicated temporal progression of events, especially the rhetoric that intentionally cuts the consistent flow of a story (Kanai & Ogata, 2004a, 2004b). Rhetoric here means a type of technique used for transforming a story into a narrative discourse. (2) An attempt to analyze the original camerawork in <i>Tokyo Monogatari</i> [<i>Tokyo Story</i>] (1953) by Yasujiro Ozu (1903-1963) showed a rhetorical movement by the machinery repetition of a normal pattern and the interference (Ogata, Tachibana, & Tomite, 2009). This analysis indicated that the camerawork of Ozu is constructed based on the principle of norm and deviation, which is a philosophical concept in this narrative generation study (Chapter 4 in this book).
Comic or Manga	In the analyses of a Japanese <i>manga</i> (comic) work, <i>Maison Ikkoku</i> (2003a, 2003b, 2004a, 2004b, 2004c, 2004d, 2004e, 2004f, 2005a, 2005b, 2005c, 2005d, 2005e, 2005f, 2006) by Rumiko Takahashi (1957-), (1) the author showed a hyper-textual space for representing several possibilities of a story using the theory by Genette (1972) and implemented the idea as an experimental system. Moreover, (2) with the same theory, a rhetorical method was discovered in which different narrative discourse techniques, "multiple narrative discourse in <i>manga</i> ," were simultaneously represented in one frame (Endo & Ogata, 2004b).
Dream	Although the author did not directly analyze actual dreams, the author preliminarily reinterpreted a dream interpretation by Freud (1900) as a kind of narrative discourse technique for transforming real materials into a story (Saito & Ogata, 1998). The author considers that a variety of narratological and literary techniques are involved in his description of dream interpretation. This kind of the analysis of narratological studies or literary theories themselves also shows a possibility to narrative analysis for narrative generation.
Drama	As described in <i>Poetics</i> by Aristotle (1997), the author preliminarily attempted a reinterpretation of an analysis of a tragedy using a set of techniques for developing a story, namely, a kind of story grammar (Aruga & Ogata, 1998). Similar to the story grammar by Propp's theory, such story grammar can also be considered as a type of narrative technique that can be used as a whole or in part.

continues on following page

Application Systems

Table 4 shows various experimental applicable systems of narrative generation that apply literary theories and other methods.

THE OVERALL STRUCTURE OF THE AUTHOR'S NARRATIVE GENERATION STUDY AND CONTENTS OF THIS BOOK

This book and the sequel (Ogata, in press) comprise the systematic writing of the books and long papers by the author, building on the treatment of problems in previous books and long papers and the following topics (in addition, the detailed descriptions of previous books and long papers by the author will be provided in **Introduction** in the sequel (Ogata, in press):

- (1) **Basic Standpoints (A Unified Consideration of Narrative Phenomena):** Scientific methods and narratological methods are two representative methods that articulate and order changeable worlds and societies and give them operational frameworks. Scientific methods are based on the analytical method that mainly anatomizes a world or object into the elements. In contrast, the narratological methods show a synthesized direction that comprehends the world or object as an organic synthesis of diverse elements. These take contrasting positions. The narratological method is a way or a set of ways that all human societies innately possess but that typically show unique characteristics of human brain and thought. This study pursues the narratological principle as a representation of the human brain's mechanism to extend results in various directions. Therefore, the narratives considered in this book and the sequel (Ogata, in press) cover broad cultural areas beyond the literary and artistic ranges to the areas of medicines related to the brain and psychology.
- (2) **The Philosophy and Thought of Narrative or Narrative Generation:** The author presents several philosophical foundations that give direction for the development, application, and distribution of one or more narrative generation systems based on the above basic consideration. These include post-narratology (or expanded literary theory, informational narratology, informatics of narratology, etc.), the multiple narrative structures model, narrative generation's circular control, narrative generation through norms and deviation, and narrative generation of

Introduction

Table 4. Application systems

System Name	Overview
<i>KOSERUBE</i>	This is a picture-story-show-like application system using the theory by Propp (1968) that generates a story and the expression with primitive moving and still images, music, and simple natural language. The system uses the whole of INGS, in particular the part of the Propp-based story generation mechanism, to generate stories with the style or structure of a folktale (Imabuchi, Akimoto, Ono, & Ogata, 2012; Akimoto, Endo, & Ogata, 2013). In addition, this system especially treats the places in and the cultural objects and culture of the Iwate Prefecture of Japan. This feature is related to the use of proper noun concepts and words in a noun-oriented dictionary. Moreover, a current expansion task is to add a CG representation function to the part of image representation. KOSERUBE is a platform of the narrative generation using all of representation media and will be reflected INGS.
<i>Hyper-Comic</i>	This is an application system of the narrative discourse theory by Genette (1972) and of the comic or <i>manga</i> system using semi-automatic narrative generation with a hyper-text structure. Each of the frame images in the hyper-comic is multiply linked to the other frames. Moving from a frame to another frame is partially based on an automatic method. The system also has another automatic function for completing a frame by the synthesis of the components or parts. Genette's theory can be applied to reorganize in different ways a sequence of frame images with a story based on various narrative discourse techniques (Endo & Ogata, 2002, 2003, 2004a). In particular, we defined the multi-layered narrative discourse that is a unique technique in comic (Endo & Ogata, 2004b) and incorporated it into the hyper-comic. Automatically generated narratives may be able to be represented by the form of hyper-comic.
Musical Variation Mechanisms	This mechanism performs musical variation using the narrative discourse techniques that apply Genette's theory. In particular, Genette-based narrative discourse techniques for a narrative conceptual structure transform a part of a narrative structure into a new structure. The musical version also applies the techniques to a musical structure to transform it. The semantic processing in the former is changed to purely formal processing in the musical version. The mechanism has been expanded to a module of the expression phase in INGS. The essential role and purpose of the mechanism are that a narrative conceptual structure and a musical structure can be transformed into each other through the same framework. This characteristic enables various flexible and free narrative generation processes, such as the route to a conceptual narrative from music, in addition to the common one, which is to music from a conceptual narrative (Kobayashi & Ogata, 2004a, 2004b; Ogata & Akimoto, 2007, Akimoto, Endo, & Ogata, 2013; Akimoto & Ogata, 2014c). As mentioned above, this mechanisms are also an experimental approach to the circular narrative control in INGS in the points of flexible and free generation processes and repeated generation.
<i>Narrative Forest (NF)</i>	NF (Akimoto, Ono, & Ogata, 2012, 2013) is an application system using INGS that consists of a narrative generation part and a user interface part. The former automatically and repeatedly generates narrative conceptual structures and the surface expressions in natural language texts and music, whereas the latter displays the growing process of a narrative tree structure as the corresponding visual image of a tree with music. The user can see the narrative generation process through a figurative user interface with a metaphorical image. At the same time, the user can intervene in the narrative generation process using several types of functions represented by icons in an interface window and appreciate the generated narrative sentences and the corresponding music. The idea of NF was originally an application system for concretizing the fluidity and fixation that is a philosophical concept for INGS's design and implementation.
Advertising Rhetorical Mechanisms and Norm-Deviation Mechanisms	These projects employed various defamiliarization techniques designed to differentiate a commercial product by analyzing television commercials. The author then analyzed them to develop experimental systems and has generalized or expanded the attempts to a general norm-deviation mechanism in which defamiliarization techniques are used to adjust the narrative deviation from a realistic standard (Kayamori & Ogata, 2003; Abe, Ogata, & Onodera, 2009; Zhang, Ono, & Ogata, 2011, 2012; Kurisawa & Ogata, 2013). These techniques are related to Viktor Shklovsky's (1893-1984) (1990) concept of "defamiliarization." In particular, the norm-deviation mechanism was used in experiments in which the system operates the generation of many narratives, with the parameters changing according to the degree of defamiliarization. The application for advertisement generation of narrative generation have been attempted since the first period of the author's narrative generation study (Ogata, Watanabe, Hori, & Ohsuga, 1995) and the above mechanisms were also conducted on the flow. Furthermore, currently, the author participates in a project with an advertisement company that aims at the automatic generation of advertisement scenarios using INGS based on detailed analyses of actual advertisement videos.
Automatic Narrative Generation Game Based on Gap and Surprise	Ono and Ogata (2018), centering on "gap" and "surprise" in narrative development, presented an automatic narrative generation system (or automatic narrative generation game) using the framework of a table-talk (or table-top) role-playing game, to acquire the methods for giving various types of surprises to the users and realizing a mechanism that can emphasize and adjust the impression of a narrative by giving surprises. The gap and surprise in narrative can be located in the rhetorical techniques of narrative generation in the above application mechanisms related to defamiliarization.

Table 4. Continued

System Name	Overview
Others	User interfaces for the aforementioned KOSERUBE and NF applications are aimed at considering the potentialities of information visualization for narrative generation: “narrative interfaces” (Ogata & Ono, 2013). Story-cutting mechanisms, based on cognitive experiments that consider the relationship between a story and a discourse, were also included in the applicable system for INGS (Kanai & Ogata, 2004a, 2004b).

fluidity and fixation. These indicate higher-level or meta-level strategic mechanisms in a broad range, including the architecture of narrative generation systems, output information, and design and development processes. These always function with the execution processes of each narrative generation system, even if they are not explicitly described

- (3) **The Consideration of Narrative Generation Mechanisms Through Narrative Analyses:** Intending to use directly the practices of narratology, this study develops a narrative rhetorical system for diverse narrative genres. The author considers how narrative generation parallels the human brain and its mechanism and positions rhetoric as objects’ representation in the world and developmental processes, namely the generation and transformation of semantic structures. Our pursuit of principles of the world can be realized through observation at various levels and the constructive exploration of the principles—that is, the rhetoric of generation and transformation. In this study, various narrative analyses are also conducted according to such direction. Basically, analyzing narrative texts or works in various genres and narrative generation processes in many genres from personal level to collective, organizational, and social levels makes it possible to acquire a unique rhetoric in each genre and systematically abstract the acquired rhetorical information. The author also presents constructive analyses of rhetorical information through computationally and cognitively re-constructing previous narratology, literary theories, and literary critiques. An essential reason that this study uses computational and cognitive methods is the experimental simulation of the knowledge and mechanisms at various narrative levels of narratology and cognitive science. Another reason is that they provide an effective means for considering mutual relationships among hierarchical levels.
- (4) **A Fundamental Narrative Generation System:** A narrative generation system presented by Ogata, Hori, and Ohsuga (1996a) was constructed as a general framework that integrates diverse types of knowledge related to the conceptual parts of narrative generation. This system architecture

has the following three categories of narrative knowledge: “narrative techniques,” for operating narrative structures; “narrative strategies,” which are rule-based knowledge for controlling the use of the above narrative techniques; and concepts of “narrative structure” generated by narrative techniques and strategies. Although narrative strategies actually need to be executed through cognitive motivations and the desires of the narrator who controls the techniques and strategies, the experimental system in the research stage more simply refers to several parameters that represent the characteristics and goals of the generated narrative. The narrative generation system introduced in this book and discussed intensively in Chapter 1 in the sequel (Ogata, in press), the Integrated Narrative Generation System (INGS), has been designed and developed based on the above concepts and a previous story generation system by Ogata (1992). INGS will not be a static system; it is always in being refined and augmented. In each stage, INGS will be a bridge to later developments and applications.

- (5) **Applications and the Social Development and Distribution of Narrative Generation:** The next part of the research is the process in which narrative rhetorical analyses and narrative generation systems are applied in several directions. The first application system that the author conducted was a marketing- and advertising-integrated support system (Ogata, Watanabe, Hori, & Ohsuga, 1995), and it was a narrative generation’s application system for the consistent support of tasks from the targeting work of a product by marketers to the CM scenario creation by advertising creators. One of the objectives of the application system was to stimulate the thinking process of marketers, advertising creators, and other participants, to expand their perspectives, and to support their trial-and-error works using diverse and flexible narrative generation ability to stimulate idea creation. Later, the author’s advertising narrative generation studies have continued to develop, and the author is currently developing a new INGS-related advertising project with the biggest advertisement production company in Japan. Another large application area was *geinō*, a Japanese word that includes dramas such as *kabuki*, folkloric performances, and modern entertainment or show business. Traditionally in Japan, the world of *geinō* has been an effective space of integrated narrative production and consumption with complex organizations and media mechanisms constructed by talented personal creators. The *geinō* can be regarded as a system that continues to produce narratives as works of various genres, including cross-media

rumors and gossip by *geinōjin* (performers) and talents as characters. The author has analyzed and simulated the vast world of modern *geinō* from several perspectives such as the level of produced narratives; the level of organizations, media, and creators that produce narratives to bridge them to the design; and the development of social and technological systems that support or simulate the narrative production and consumption mechanism of *geinō*. Surveying and analyzing *kabuki* occupies the central part of the current *geinō* study. The author is currently designing *geinō* phenomena as the model and system of an integrated mechanism, *Geinō* Information System (GIS), that creates narratives of *geinōjins* through the organizational association of the following mechanisms: narrative production, narrative development, reception space, narrative reception, and narrative interpretation. GIS has developed a system that included or works with INGS beyond mere applications and intends to develop a fundamental mechanism for pushing narrative generation study into the world of social distribution and development.

- (6) **The Production of Literary and Artistic Works or Literary and Artistic Organizations:** Finally, an objective of the author in using these mechanisms is to explore experimentally new narrative genres and works that have characteristics such as extemporaneity, mutability, and immediacy. However, this plan does not yet have a concrete goal or a strategy for achieving that goal. However, the author considers that although a narrative writer's creativity is shown in the work and whether the texts are literary musical score, the writer's goals and intentions are not necessarily reflected directly in the presentation of the narrative work. Similar to the creation of a pottery, the narrative production process includes the image in which the narrative work is involved in the non-autonomic process in the furnace of computers and acquires diverse representation possibilities according the writing process. In addition, the narrative work is gradually produced through the continuous and mutual practices among various agents in the multiple narrative structure model, including the receivers. An important consideration is how to explore and develop various possibilities for narrative representation and creation that are impossible in current narrative genres, including novels. In the future, all the author's research and development will be organized from the above viewpoints. At the same time, the author plans in parallel, to explore the principle of literary or artistic movement beyond business in the narrow sense. The point where the principles of engineering and business are overcome or downfall mean that a mental

Introduction

principle may be a goal in the author's entire activity. In particular, produced narratives will appear in the final stages.

This book mainly deals with the above themes in (1) and (2). The remaining themes, (3), (4), (5), and (6), will be taken up in the sequel (Ogata, in press). Table 5 lists the themes and the corresponding chapters in the two books.

The following description gives the overviews of Chapters 1, 2, 3, and 4 in this book. The two books—this one and the sequel (Ogata, in press)—reflect many of the author's previous papers to construct an integrated approach to narrative generation as a whole by revising and expanding the previous papers' contents.

Chapter 1 (**What is Narrative Generation Phenomena?**) introduces an idea that deals with narrative phenomena as the integration between the individual level (narrative generation and reception system) and social level (narrative production and consumption system); this idea is called the "multiple narrative structures model." This chapter describes the future image of a human-machine symbiosis system that includes narrators (senders) and narratees (receivers) as artificial intelligence. Furthermore, based on the concept of "visible narratives" and "invisible narratives," the author analyzes the narrative components or elements to consider methods for synthesizing the analyzed elements. This idea of the analysis and synthesis of various narrative elements will be systematized in the Integrated Narrative Generation System (INGS). In addition, the main part of this chapter is based on Chapters 2 and 3 of Ogata (2018a, 2018b).

Table 5. Themes in the integrated approach to narrative generation by the author and the corresponding chapters in this book [first book] and the next one [second book] (Ogata, in press)

Themes	Corresponding Chapters
(1) Basic standpoints (A unified consideration of narrative phenomena)	Chapter 1 [First book] Chapter 2 [First book]
(2) The philosophy and thought of narrative or narrative generation	Chapter 3 [First book] Chapter 4 [First book] Chapter 4 [Second book]
(3) The consideration of narrative generation mechanisms through narrative analyses	Chapter 2 [Second book] Chapter 3 [Second book]
(4) A fundamental narrative generation system	Chapter 1 [Second book]
(5) Applications and the social development and distribution of narrative generation	Chapter 2 [Second book] Chapter 3 [Second book]
(6) The production of literary and artistic works or literary and artistic organizations	Chapter 4 [Second book]

Chapter 2 (**Areas of Narratives or Narrative Genres**) presents a tentative and large categorized system of narrative genres, i.e., a “narrative genre system.” It is related to the division of the objects or materials of research and analysis in the synthetic narrative generation study based on computational methods. Although, throughout this book and the sequel (Ogata, in press), the author consciously uses Japanese narratives that include both universal narrative characteristics and local or cultural features, this narrative genre system is basically constructed using Japanese narrative genres as concrete materials. As an overview, the narrative genre system includes the following five narrative categories: (1) the narrative genre as a work in the narrow sense, (2) the narrative genre as a work in the broad sense, (3) the narrative genre as social and emergent phenomena, (4) the narrative genre invading the real phenomena, and (5) the narrative genre as human physiological and psychological phenomena. In each explanation, after the corresponding narrative genre category is defined and explained, a concrete genre under the large genre category is treated for discussing the characteristics. This chapter is a major revision and expansion of Ogata (1999, 2000).

Chapter 3 (**Narratology and Post-Narratology**) describes the narratology or post-narratology that synthesizes and develops various narrative-related studies, including previous narrative research, narrative and narrative generation studies in the broad sense, and previous narratology and literary theories. This chapter studies various narrative studies in the broad sense and then studies and surveys narrative and narrative generation studies in more narrow sense. Further, dependent on these backgrounds, the author surveys the fields of narratology and literary theories. On the other hand, as a cultural approach, this chapter refers especially to Japan’s literature. In summary, dependent on the above topics, this chapter presents the concept of post-narratology, the expanded literary theory in the author’s previous term. This chapter is based on the substantially changing and expansion of Chapter 1 of Ogata (2019a).

In Chapter 4 (**Theoretical or Philosophical Considerations for an Integrated Narrative Generation Approach**), although narrative philosophy or thought are the fundamental concepts supporting this study, a point different from the previous studies relating to narrative philosophy is that this study aims to make products in the technological field of narrative generation systems instead of philosophy or thought about narrative itself. From the viewpoint of philosophy or thought, the narrative generation systems are applications. In contrast, from the goal of narrative generation systems, philosophy or thought corresponds to a kind of strategic framework for establishing the

Introduction

vision, strategy, and direction. In particular, the first philosophical concept is “multiple narrative structures.” Next, the author addresses the following three concepts: “circular narrative control,” “norm and deviation,” and “fluidity and fixation.” They are not concepts that are respectively individual. These philosophical concepts build the dynamical characteristics of narrative generation through their interrelationships.

This book includes, as a core part, narrative generation studies in the narrow sense, namely studies that aim to design and develop narrative generation systems using theories of cognitive science and technologies of artificial intelligence. In particular, introducing the tradition of narratology and literary theories in human sciences, this book intends to design and develop narrative generation systems based on artificial intelligence and cognitive science to create a new research field for fusing different research genres. This is an outstanding characteristic of the book. It is also present in the sequel (Ogata, in press). However, the author has larger plans and ranges. In particular, this study is supported by the author’s view of the world, thought, and philosophy and is based on surveys, analyses, and interpretations of diverse narratives. All the elements are bound in an “integrated approach to narrative generation” as a whole. The author also calls it “post-narratology,” i.e. narratology that transforms the previous narratology into new fields not referred by the latter.

The author divides post-narratology into the following two directions: a general one for the development of a new academic field, and the personal or private one. The two books describe post-narratology as an integrated approach to narrative generation with respect to the personal direction of the author instead of the general. In other words, they present an integrated approach to narrative generation, or post-narratology, that is aimed at the personal level. Although, of course, these books state the plans and contents of post-narratology on the more general level, the descriptions are directed at personal goals. In particular, this is shown in the title of the sequel (Ogata, in press), *Internal and External Narrative Generation Through Post-Narratology: Emerging Research and Opportunities*, and that of its Chapter 4, “Toward External and Internal Practices of Narrative Generation.” Furthermore, the term “internal narrative generation” included in these titles means the vision of a current goal in this personal or private approach that is related to narrative creation and production of the narrative as a work. These books give not only an overview of a new academic field but also a comprehensive and systematic description of creating an integrated approach to narrative generation, or post-narratology, based on the unique concepts, thoughts,

philosophies, and methods from the perspective of the author's relatively personal or private direction.

Therefore, the primary purpose of these books is not providing the readers a general survey, overview, and the newest situation of narrative generation studies in the narrow sense; rather, it is to present the concepts, methods, analyses, and systems of the author's integrated narrative generation study, or post-narratology, which has a broad and long range, in addition to narrative generation systems in the narrow sense. Although reports on the research and developments of narrative generation systems in the narrow sense have been increasing exponentially, the general and comprehensive information of such systems will be provided in other books or papers in the future.

In addition, as parts of this book and the sequel use the author's previous studies, they have the "retrospection of an integrated approach to narrative generation" as an aspect. A reason for this is that, right from the first stage of the career as a researcher, the author has tried to organize a study organically, based on systematic thought. For example, although the "narrative genre system" that the author previously proposed is included in this book, it was never thought to be a mere single-level idea. Rather, it was considered a kind of basic knowledge to be utilized in the future. Now, this book again focuses on it and describes it as a theme that plays an important role in the systematic structure of the author's integrated approach to narrative generation, or post-narratology. Actually, after the first proposition of the narrative genre system, the range of surveys and analyses of narratives has been gradually extended to a variety of genres, such as *kabuki*, folktales, and the real event of Mishima Yukio, according to the typology of genres in the system. These results of surveys and analyses have been utilized in the author's narrative generation systems.

As stated above, the author's integrated approach to narrative generation, or post-narratology, is currently planned to be completed in the "internal narrative generation," which is included in the title of the sequel and is the theme of its Chapter 4, namely the act of creating or producing narrative works. Although a thing to be truly hoped for, by reversing the paper's construction, is integrating past studies from this point or from the viewpoint of this vision to be realized in the future into the explanation and structuring of a narrative, it will be an objective in future books and papers.

Based on the above, the descriptions below show this book's (and the sequel's) contribution to two types of readers:

Introduction

- For readers who are interested in narrative generation system studies using artificial intelligence and cognitive science: This book does not intend to provide general and comprehensive information of narrative generation systems. Referencing narratology and various fields of related human and social sciences, it presents an approach based on the basic and fundamental standpoint on what is a narrative and narrative generation. As many engineers of information technologies do not have detailed knowledge of narratology and literary theories, the two books will aid them.
- For readers who are interested in narratology and related human and social sciences: By providing research possibilities from the viewpoint of generation, production, and creation beyond the positioning of narrative and literary researches according to reception, such as understanding and comprehension, appreciation, and interpretation, this book presents new possibilities and visions of narrative and literary studies. In describing the inheriting of knowledge and important issues of narratology and literary theories as a whole and the concrete methods for bridging the gap between them and artificial intelligence and information technologies, this book holds many implications for and makes contributions to researchers of humanities who do not have detailed knowledge of artificial intelligence and information technologies.

In this introductory chapter, the author discussed the significance and importance of narratives and narrative generation for humans and societies in the first section, **NARRATIVE: ITS SIGNIFICANCE AND IMPORTANCE**. Next, in the context of the story or narrative of the author, the history of the author's previous narrative generation study was described from two viewpoints, i.e. personal and technological or academic viewpoints. First, **AUTHOR'S RESEARCH HISTORY: PRIVATE PERSPECTIVE** provided the overview of a personal history to show how "I," as the author, reached the position of the current study in which narrative or literature and computer or AI are combined through the concept of narrative generation. This description is related to the motivation for the narrative generation study in the deepest level. The narrative generation study corresponds to a place where the original interestingness of the author through narrative, literature, computer science, and social sciences. Next, in **AUTHOR'S RESEARCH HISTORY: TOWARD AN INTEGRATED APPROACH TO NARRATIVE GENERATION**, from more academic and technological

perspectives, the author described the process and results of the narrative generation study to indicate the entire framework and current problems related to the content of this book. Main two technological and academic fields are the field of narratology and literary theories and the field of artificial intelligence and cognitive science. Further, social approaches and humanities also have essential relationships with the study. Finally, **THE OVERALL STRUCTURE OF THE AUTHOR'S NARRATIVE GENERATION STUDY AND CONTENTS OF THIS BOOK**, the author showed main themes treated in the book and the overviews of the following four chapters.

ACKNOWLEDGMENT

This chapter's research was supported by JSPS KAKENHI Grant Number18K18509, Kayamori Foundation of Information Science Advancement Research Grant, The Telecommunication Advancement Foundation Research Grant, and AOI TYO Holdings Inc.

REFERENCES

Abe, H., Ogata, T., & Onodera, K. (2009). An analysis of products introducing rhetoric in advertising and the prototype system implementation. In *Proceedings of the 23rd Annual Conference of the Japanese Society for Artificial Intelligence* (1J1-OS2-4). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Akimoto, T., Endo, J., & Ogata, T. (2013). The expansion of paths in the mutual transformation mechanism of music and narrative. *International Journal of Cognitive Informatics and Natural Intelligence*, 7(4), 44–63. doi:10.4018/ijcini.2013100103

Akimoto, T., & Ogata, T. (2012). A narratological approach for narrative discourse: Implementation and evaluation of the system based on Genette and Jauss. In *Proceedings of the 34th Annual Conference of the Cognitive Science Society* (pp. 1272-1277). Tokyo, Japan: Japanese Cognitive Science Society.

Akimoto, T., & Ogata, T. (2013). Discourse mechanism in narrative generation system: Proposal of a system introducing narrative discourse theory and reception theory. *Cognitive Studies*, 20(4), 396–420.

Introduction

Akimoto, T., & Ogata, T. (2014a). Tōgō monogatari seisei system ni okeru monogatari naiyō gihō to monogatari naiyō contents chishiki base [Story techniques and story contents knowledge base in an integrated narrative generation system]. In *Proceedings of the 20th Annual Meeting of the Association for Natural Language Processing* (pp. 224–227). Tokyo, Japan: The Association for Natural Language Processing.

Akimoto, T., & Ogata, T. (2014b). An information design of narratology: The use of three literary theories in a narrative generation system. *The International Journal of Visual Design*, 7(3), 31–61. doi:10.18848/2325-1581/CGP/v07i03/38747

Akimoto, T., & Ogata, T. (2014c). Circulative narrative generation based on the mutual transformation between narrative conceptual structures and music in the integrated narrative generation system. *Journal of Robotics, Networking and Artificial Life*, 1(3), 198–202. doi:10.2991/jrnal.2014.1.3.6

Akimoto, T., & Ogata, T. (2015). Experimental development of a focalization mechanism in an integrated narrative generation system. *Journal of Artificial Intelligence and Soft Computing Research*, 5(3), 177–188. doi:10.1515/jaiscr-2015-0027

Akimoto, T., Ono, J., & Ogata, T. (2012). Narrative Forest: An automatic narrative generation system with a visual narrative operation mechanism. In *Proceedings of the 6th International Conference on Soft Computing and Intelligent Systems & the 13th International Symposium on Advanced Intelligent Systems* (pp. 2164–2167). Tokyo, Japan: Japan Society of Fuzzy Theory and Intelligent Informatics. 10.1109/SCIS-ISIS.2012.6505319

Akimoto, T., Ono, J., & Ogata, T. (2013). A proposal of an entertainment content including a narrative generation Mechanism 2: “Narrative Forest (version 2)” with a figurative visual interface. In *Proceedings of The 27th Annual Conference of the Japanese Society for Artificial Intelligence* (214–8in). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Aoki, S. (2017a). Learning difficulty and story generation. In *Proceedings of the 34th Annual Meeting of the Japanese Cognitive Science Society*. Tokyo, Japan: Japanese Cognitive Science Society.

Aoki, S. (2017b). Learning difficulty and story generation: From the viewpoint of psychiatry. In *Proceedings of the 56th Special Interest Group on Language Sense Processing Engineering* (pp. 53-57). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Aristotle. (1997). *Poetics* (M. Heath, Trans.). London, UK: Penguin Classics.

Aruga, H., & Ogata, T. (1998). Structural analysis of tragic story and formalization of general rules. In *Proceedings of the 12th Annual Conference of the Japanese Society for Artificial Intelligence* (pp. 697-700). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Barry, P. (2009). *Beginning theory: An introduction to literary and cultural theory* (3rd ed.). Manchester, UK: Manchester University Press.

Chiba, S., & Tsubouchi, Y. (Eds.). (2003). *Nihon kindai bungaku hyōron sen—Meiji, Taishō hen* [Japanese modern literature criticisms collection: Part of Meiji and Taishō]. Tokyo, Japan: Iwanami Shoten.

Chiba, S., & Tsubouchi, Y. (Eds.). (2004). *Nihon kindai bungaku hyōron sen—Shōwa hen* [Japanese modern literature criticisms collection: Part of Shōwa]. Tokyo, Japan: Iwanami Shoten.

Compagnon, A. (1998). *Le démon de la théorie. littérature et sens commun*. Paris: Seuil.

Danto, A. C. (1965). *Analytical philosophy of history*. London, UK: Cambridge University Press.

DeJong, G. (Ed.). (1993). *Investigating explanation-based learning*. Boston, MA: Kluwer Academic Press. doi:10.1007/978-1-4615-3602-4

DeJong, G. (2014). Explanation-based learning. In T. Gonzalez, J. Diaz-Herrera, & A. Tucker (Eds.), *CRC Computing handbook: Computer science and software engineering* (Vol. 3, pp. 66.1–66.26). Boca Raton, FL: CRC Press.

Endo, Y., & Ogata, T. (2002). Hyper-comic system as representation field of narrative discourse. In *Proceedings of 17th Congress of the International Association of Empirical Aesthetics* (pp. 555-558). Rome, Italy: University of Rome Tre.

Endo, Y., & Ogata, T. (2003). Hyper-comic system as consideration of rhetoric. In *Proceedings of the 4th International Conference on Cognitive Science* (pp. 111-116). Oakbrook Terrace, IL: Cognitive Science Society.

Introduction

Endo, Y., & Ogata, T. (2004a). A rhetorical analysis of a Japanese comic for hyper-comic system. In *Proceedings of 18th Congress of the International Association of Empirical Aesthetics* (pp. 502-508). Rome, Italy: University of Rome Tre.

Endo, Y., & Ogata, T. (2004b). Multilayered discourse in hyper-comic. In *Proceedings of the 9th International Symposium on Artificial Life and Robotics* (Vol. 1, pp. 49-52). Oita, Japan: International Society of Artificial Life and Robotics.

Flusser, V. (1989). *Fuer eine philosophie der fotografie*. Berlin, Germany: European Photography.

Freud, S. (1900). *Die traumdeutung*. Leipzig und Wien, Germany: Franz Deuticke.

Fujiwara, A., Jumpei, O., & Ogata, T. (2015b). Propp ni motozuku story contents grammar wo riyō shita chishiki tōroku/kakunō tool ni motozuku kōsatu [Consideration based on knowledge storing using the story content grammar based on Propp]. In *Proceedings of the 48th Special Interest Group on Language Sense Processing Engineering* (pp. 57-66). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Fukuda, T. (1990). *Monogatari marketing* [Story marketing]. Tokyo, Japan: Takeuchishoten-shinsha.

Gardner, H. (1986). *The mind's new science: A history of the cognitive revolution*. New York: Basic Books.

Gavins, J., & Steen, G. (Eds.). (2003). *Cognitive poetics in practice*. New York: Routledge. doi:10.4324/9780203417737

Genette, G. (1972). *Discours du récit, essai de méthode, figures III*. Paris: Seuil.

Genji Monogatari. (1993). In *Shin nihon koten bungaku taikai, 19* [New Japanese classic literature collection, 19]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1994). In *Shin nihon koten bungaku taikai, 20* [New Japanese classic literature collection, 20]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1995). In *Shin nihon koten bungaku taikai*, 21 [New Japanese classic literature collection, 21]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1996). In *Shin nihon koten bungaku taikai*, 22 [New Japanese classic literature collection, 22]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1997). In *Shin nihon koten bungaku taikai*, 23 [New Japanese classic literature collection, 23]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Haniya, Y. (1976). Seishin no relay [Relay of the mind]. In Y. Haniya, K. Ogawa, N. Matsugi, T. Shimaō, S. Akiyama, & M. Oda (Eds.), *Seishin no relay—Kōenshū* [Relay of the mind: A collection of presentations] (pp. 7–17). Tokyo, Japan: Kōdansha.

Hasegawa, C. (2015). *Monogataru koto to <watakushi>—Shinri ryōhō ni okeru monogatari no kanōsei* [Narrating and <I>: The possibilities of narrative in psychotherapy]. Osaka, Japan: Sōgensha.

Hasumi, S. (2014). “*Bovary fujin*” ron [A theory of “Madam Bovary”]. Tokyo, Japan: Chikuma Shobō.

Herman, D. (2003). *Narrative theory and the cognitive sciences*. CSLI.

Honma, H. (1932). Tsubouchi Shōyō. In *Iwanami kōza nihon bungaku* [Iwanami lectures Japanese literature]. Tokyo, Japan: Iwanami Shoten.

Imabuchi, S., Akimoto, T., Ono, J., & Ogata, T. (2012). KOSERUBE: An application system with a Propp-based story grammar and other narrative generation techniques. In *Proceedings of the 6th International Conference on Soft Computing and Intelligent Systems & the 13th International Symposium on Advanced Intelligent Systems* (pp. 248-253). Tokyo, Japan: Japan Society of Fuzzy Theory and Intelligent Informatics. 10.1109/SCIS-ISIS.2012.6505320

Ishii, K., & Ogata, T. (1998). A study on the methodology of hypertext novels based on a prototyping. In *Proceedings of the 12th Annual Conference of the Japanese Society for Artificial Intelligence* (pp. 701-702). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Introduction

Ito, T., Sasaki, A., & Ogata, T. (2018). Kōkoku ni kansuru Creative Genome wo mochiita CM concept *haiku* no seisei [CM concept *haiku* generation using Creative Genome of advertisement]. In *Proceedings of the 35th Annual Conference of the Japanese Cognitive Science Society* (pp. 516-517). Tokyo, Japan: Japanese Cognitive Science Society.

Jauss, H. R. (1970). *Literaturgeschichte als provokation*. Frankfurt am Main, Germany: Suhrkamp Verlag.

Kanai, A., & Ogata, T. (2004a). Aspect of non-story processing and film rhetoric composition in the narrative generation mechanism. In *Proceedings of the 9th International Symposium on Artificial Life and Robotics* (Vol. 1, pp. 162-165). Oita, Japan: International Society of Artificial Life and Robotics.

Kanai, A., & Ogata, T. (2004b). Non-story processing on the film rhetoric composition system. In *Proceedings of 18th Congress of the International Association of Empirical Aesthetics* (pp. 433-436). Rome, Italy: University of Rome Tre.

Karatani, K. (1993). *Origins of modern Japanese literature*. Durham, UK: Duke University Press. (Original work published 1980) doi:10.1215/9780822378440

Kawamura, Y. (2019). An attempt of the commercial film production support system based on the image rhetoric of commercial film. In T. Ogata & T. Akimoto (Eds.), *Post-narratology through computational and cognitive approaches* (pp. 292–317). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-7979-3.ch007

Kayamori, O., & Ogata, T. (2003). Analysis and scenario generation of TVCFs based on the relations between story and brand. In *Proceedings of the 17th Annual Conference of the Japanese Society for Artificial Intelligence* (2G2-06). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Kishimoto, N. (2015). *Neuropsychanalysis he no shōtai* [Introduction to neuropsychanalysis]. Tokyo, Japan: Seishin Shobō.

Kobayashi, F., & Ogata, T. (2004a). Narrative and music as variation: Transformation of musical structure based on narrative discourse theory. In *Proceedings of the 9th International Symposium on Artificial Life and Robotics* (Vol. 1, pp. 170-173). Oita, Japan: International Society of Artificial Life and Robotics.

Kobayashi, F., & Ogata, T. (2004b). A musical variation system by the structural correspondence between music and narrative. In *Proceedings of 18th Congress of the International Association of Empirical Aesthetics* (pp. 555-559). Rome, Italy: University of Rome Tre.

Kumagai, T., Funakoshi, S., Akimoto, T., & Ogata, T. (2012). Development of a language dictionary and a simple narrative sentence generation mechanism. In *Proceedings of the 26th Annual Conference of the Japanese Society for Artificial Intelligence* (1N1-OS-1a-3). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Kurisawa, Y., & Ogata, T. (2013). A consideration of a norm-deviation mechanism in the integrated narrative generation system. In *Proceedings of the 44th Special Interest Group on Language Sense Engineering* (pp. 25-35). Tokyo, Japan: The Japanese Artificial Intelligence Society.

Lerdahl, F., & Jackendoff, R. (1983). *A generative theory of tonal music*. Cambridge, MA: MIT Press.

Lyotard, J-F. (1979). *La condition post moderne*. Paris: Les edition de Minuit.

Mateas, M., & Sengers, P. (Eds.). (2003). *Narrative intelligence*. Amsterdam, The Netherlands: John Benjamins Publishing. doi:10.1075/aicr.46

Meister, J. C. (2003). *Computing action: A narratological approach*. Berlin, Germany: Walter de Gruyter.

Mishima, Y. (1963). *Gogo no eikō*. Tokyo, Japan: Kōdansha.

Mishima, Y. (2010). *Shōsetsu dokuhon* [Literary criticisms collection by Mishima Yukio]. Tokyo, Japan: Chūōkōronshinsha.

Mukouyama, K., Shinohara, K., Kanai, A., & Ogata, T. (2002). Rhetorical analysis and automatic editing of the film. In *Proceedings of 17th Congress of the International Association of Empirical Aesthetics* (pp. 571-574). Rome, Italy: University of Rome Tre.

Nakagami, K. (2004). *Fūkei no mukō he* [Beyond the landscape]. Tokyo, Japan: Tōjusha.

Nakashima, H. (2006). Constructive informatics and AI. *Transactions of the Japanese Society for Artificial Intelligence*, 21(6), 502–513. doi:10.1527/tjsai.21.502

Introduction

Naniwa Miyage. (1959). [Naniwa Souvenir]. Fusai Chikamatsu no gensetsu (*Naniwa miyage* hottan-sho) [Appendix Chikamatsu's discourse (The first part of *Naniwa Miyage*)]. In *Chikamatsu jōruri shū*, 2 [Chikamatsu's jōruri collection, 2] (pp. 355-359). Tokyo, Japan: Iwanami Shoten. (Original work published 1738)

Natsume, S. (2007). *Bungaku ron (I, II)* [Literary theory (I, II)]. Tokyo, Japan: Iwanami Shoten. (Original work published 1907)

Newell, A., & Simon, H. A. (1972). *Human problem solving*. Prentice Hall.

Ōae, H. (2017). *Gensō toshite no "watakushi"* ["I" as fantasy]. Tokyo, Japan: Keisō Shobō.

Ogata, T. (1992). *Setsumei ni motozuku monogatari seisei system ni kansuru kenkyū* [Study on an explanation-based narrative generation system] (Master's dissertation). Tsukuba University, Tokyo, Japan.

Ogata, T. (1995). *Monogatari seisei—Monogatari no tameno gihō to senryaku ni motozuku approach* [Narrative generation: An approach based on the techniques and strategies for narratives] (Doctoral dissertation). The University of Tokyo, Tokyo, Japan.

Ogata, T. (1999). Comprehensive consideration of a narrative genre system. In *Proceedings of 2nd Workshop of Literature and Cognition, Computer in Tokyo'99 Winter* (pp. 85-91). Tokyo, Japan: Japanese Cognitive Science Society.

Ogata, T. (2000). Monogatari genre taikai no mōrateki kentō [The comprehensive consideration of a narrative genre system]. In N. Yoshimine, H. Akama, & A. Tokosumi (Eds.), *Japanese Cognitive Science Society Technical Report 00-No.40 "Literature and Cognition/Computer 2: Expanding Literature"* (pp. 163–166). Tokyo, Japan: Japanese Cognitive Science Society.

Ogata, T. (2002). Expanded literary theory: Cognitive/computational expansion of literary theories and narratology. In *Proceedings of 17th Congress of the International Association of Empirical Aesthetics* (pp. 163-166). Rome, Italy: University of Rome Tre.

Ogata, T. (2003a). Monogatari no tajūsei to kakuchō bungaku riron no gainen—System narratology ni mukete I [Narrative multiplicity and the concept of expanded literary theory: Toward a system narratology]. In M. Yoshida (Ed.), *Fukuzatsu-kei shakai riron no shin chihei* [New paradigm of complex social system theory] (pp. 127–181). Tokyo, Japan: Senshu Daigaku Shuppanyoku.

Ogata, T. (2003b). Kakuchō bungaku riron no kokoromi—System narratology ni mukete II [Attempts of expanded literary theory: Toward a system narratology]. In M. Yoshida (Ed.), *Fukuzatsu-kei shakai riron no shin chihei* [New paradigm of complex social system theory] (pp. 309–356). Tokyo, Japan: Senshu Daigaku Shuppanyoku.

Ogata, T. (2010). Shōsetsu—Ryūdō to kotei, sakuhin no hō he [Novels: Fluidity and fixation, toward works]. In T. Ogata & A. Kanai (Eds.), *Monogatari riron no jōhōgaku josetsu—Monogatari seisei no shisō to gijutsu wo megutte* [An introduction to informatics of narratology: Around the thoughts and technologies of narrative generation] (pp. 130–169). Tokyo, Japan: Gakubunsha.

Ogata, T. (2014). Expanded literary theory for automatic narrative generation. In *Proceedings of Joint 7th International Conference on Soft Computing and Intelligent Systems and 15th International Symposium on Advanced Intelligent Systems* (pp. 1558-1563). Tokyo, Japan: Japan Society of Fuzzy Theory and Intelligent Informatics.

Ogata, T. (2015). Building conceptual dictionaries for an integrated narrative generation system. *Journal of Robotics, Networking and Artificial Life*, 1(4), 270–284. doi:10.2991/jrnal.2015.1.4.6

Ogata, T. (2016). Computational and cognitive approaches to narratology from the perspective of narrative generation. In T. Ogata & T. Akimoto (Eds.), *Computational and cognitive approaches to narratology* (pp. 1–73). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0432-0.ch001

Ogata, T. (2018). An integrated approach to narrative generation: From Mishima and kabuki to narrative generation systems. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 49-147). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch002

Introduction

Ogata, T. (2019a). A computational, cognitive, and narratological approach to narrative generation. In T. Ogata & T. Akimoto (Eds.), *Post-narratology through computational and cognitive approaches* (pp. 1–84). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-7979-3.ch001

Ogata, T. (2019b). Toward a post-narratology or the narratology of narrative generation. In T. Ogata & T. Akimoto (Eds.), *Post-narratology through computational and cognitive approaches* (pp. 85–142). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-7979-3.ch002

Ogata, T. (in press). *Internal and external narrative generation based on post-narratology: Emerging research and opportunities*. Hershey, PA: IGI Global.

Ogata, T., & Akimoto, T. (2007). Towards the circular narrative generation based on the correspondences between language-based narrative and music: Systems development based on narrative rhetoric and fundamental considerations about the systems and the circular narrative generation. *Cognitive Studies*, 14(3), 355–379.

Ogata, T., & Akimoto, T. (Eds.). (2016). *Computational and cognitive approaches to narratology*. Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0432-0

Ogata, T., & Akimoto, T. (Eds.). (2019). *Post-narratology through computational and cognitive approaches*. Hershey, PA: IGI Global. doi:10.4018/978-1-5225-7979-3

Ogata, T., & Asakawa, S. (Eds.). (2018). *Content generation through narrative communication and simulation*. Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4

Ogata, T., & Fujiwara, A. (2015). A generalization of the method of specifying each “function”: For an expansion of the Propp-based story generation mechanism in an integrated narrative generation system. In *Proceedings of the 29th Annual Conference of the Japanese Society for Artificial Intelligence (3G4-OS-05b-3)*. Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Ogata, T., Fujiwara, A., & Imabuchi, S. (2014). A way to relatively freely define the sequence of “functions” for a story: Generalizing a Propp-based story generation system. In *Proceedings of the 28th Annual Conference of the Japanese Society for Artificial Intelligence (2F5-OS-01b-2in)*. Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Ogata, T., Hori, K., & Ohsuga, S. (1994). Towards narrative text generation based on narrative techniques and strategies. In *Proceedings of International Federation for Information and Documentation* (pp. 296–300). Brussels, Belgium: International Federation for Information and Documentation.

Ogata, T., Hori, K., & Ohsuga, S. (1995). A basic framework of narrative generation system as creative interface. In Y. Anzai, K. Ogawa, & H. Mori (Eds.), *Symbiosis of human and artifact (20A)* (pp. 679–684). Amsterdam, The Netherlands: Elsevier. doi:10.1016/S0921-2647(06)80107-3

Ogata, T., Hori, K., & Ohsuga, S. (1996a). A basic framework for narrative conceptual structure generation based on narrative techniques and strategies. *Jinkō Chinō Gakkaishi*, 11(1), 148–159.

Ogata, T., Hori, K., & Ohsuga, S. (1996b). An analysis of narrative structure and generation process for narrative generation system. *Cognitive Studies*, 3(1), 72–109.

Ogata, T., & Kanai, A. (2010). *Monogatari no jōhōgaku josetsu—Monogatari seisei no shisō to gijutsu wo megutte* [An introduction to informatics of narratology: Around the thoughts and technologies of narrative generation]. Tokyo, Japan: Gakubunsha.

Ogata, T., Kawamura, Y., & Kanai, A. (2018). *Jōhō monogatari—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation]. Tokyo, Japan: Hakutō Shobō.

Ogata, T., & Kobayashi, F. (2004a). A framework of the mutual transformation between music and narrative and a music variation system. In *Proceeding of the 18th Annual Conference of the Japanese Society for Artificial Intelligence (2D2-09)*. Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Ogata, T., & Kobayashi, F. (2004b). Hensō kara no monogatari seisei heno sekkin [Approaching to narrative generation from music variation]. In *Proceeding of the 17th Special Interest Group on Language Sense Processing Engineering* (pp. 1-33). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Ogata, T., & Ono, J. (2013). Designing narrative interface with a function of narrative generation. In *Proceeding of the 2013 International Conference on Cyberworlds* (pp. 214-221). Berlin, Germany: Springer. 10.1109/CW.2013.74

Introduction

Ogata, T., Tachibana, S., & Tomite, S. (2009). Animated movie generation from narrative conceptual representation and the automatic camerawork: Analysis and simulation of “Tokyo Story.” In *Proceedings of the 26th Annual Meeting of the Japanese Cognitive Science Society* (P2-32). Tokyo, Japan: Japanese Cognitive Science Society.

Ogata, T., & Terano, T. (1991). Explanation-based narrative generation using semiotic theory. In *Proceedings of Natural Language Processing Pacific Rim Symposium* (pp. 321-328). Tokyo, Japan: Information Processing Society of Japan.

Ogata, T., & Terano, T. (1992). Plot generation and expansion in explanation-based narrative generator. In *Proceedings of 1st Singapore International Conference on Intelligent Systems* (pp. 549-554). Singapore: Singapore International Conference on Intelligent Systems (SPICIS).

Ogata, T., Watanabe, K., Hori, K., & Ohsuga, S. (1995). A basic framework of the application of narrative generation system for integrated support of marketing/advertisement. *Journal of the Japan Society for Management Information*, 4(1), 19–42.

Ogata, T., Watanabe, K., Hori, K., & Ohsuga, S. (1995). A basic framework of the application of narrative generation system for integrated support of marketing/advertisement. *Journal of the Japan Society for Management Information*, 4(1), 19–42.

Ogata, T., & Yamakage, S. (2004). A computational mechanism of the “distance” in narrative: A trial in the expansion of literary theory. In *Proceedings of the 8th World Multiconference on Systemics, Cybernetics and Informatics* (pp. 179-184). Winter Garden, FL: World Multiconference on Systemics, Cybernetics and Informatics.

Oikawa, H., & Ogata, T. (2012). On the narrative generation as a mutual cognition mechanism among characters. In *Proceedings of the 29th Annual Meeting of the Japanese Cognitive Science Society* (pp. 540-549). Tokyo, Japan: Japanese Cognitive Science Society.

Ono, J., Ito, T., & Ogata, T. (2019). Programing folk tale’s motifs and comparing motif structures. In *Proceeding of Special Interest Group on Language Sense Processing Engineering* (pp. 51–62). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Ono, J., & Ogata, T. (2017). Attribute information acquisition in a conceptual dictionary by using Wikipedia and the use in an automatic narrative generation game. In *Proceedings of the 31st Annual Conference of the Japanese Society for Artificial Intelligence* (1D3-OS-29b-2in2). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Ono, J., & Ogata, T. (2018). Surprise-based narrative generation in an automatic narrative generation game. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 162–185). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch004

Ono, J., Sasaki, A., Ito, T., & Ogata, T. (2018). Creative Genome no parameter ni motozuku Kōkoku story seisei ni mukete [Toward advertising story generation based on parameters of Creative Genome]. In *Proceedings of the 58th Special Interest Group on Language Sense Processing Engineering* (pp. 55-59). Fukuoka, Japan: The Japanese Society for Artificial Intelligence.

Ono, J., Sasaki, A., & Ogata, T. (2019). A Consideration of a method for narrative generation based on the analysis of CMs: Toward the organic combination between an integrated narrative generation system and “Creative Genome”. In *Proceeding of the 61st Special Interest Group on Language Sense Processing Engineering* (pp. 39-46). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Onodera, K., Akimoto, T., & Ogata, T. (2012). A state-event transformation mechanism for generating micro structures of story in an integrated narrative generation system. In *Proceedings of the 34th Annual Conference of the Cognitive Science Society* (pp. 2150-2155). Tokyo, Japan: Japanese Cognitive Science Society.

Ōura, K. (Ed.). (2017). *Nihon no bungaku riron: Anthology* [Japanese literary theories: Anthology]. Tokyo, Japan: Suiseisha.

Ozu, Y. (Director), & Yamamoto, T. (Producer) (1953). Tokyo monogatari [Tokyo story] (Motion picture). Japan: Shōchiku.

Prince, G. (1982). *Narratology*. Berlin, Germany: Walter de Gruyter. doi:10.1515/9783110838626

Prince, G. (2003). *A dictionary of narratology* (Revised edition). University of Nebraska Press.

Introduction

Propp, V. Y. (1968). *Morphology of the folktale* (L. Scott, Trans.). Austin, TX: University of Texas Press. (Original work published 1928)

Ryan, M. L. (1991). *Possible worlds, artificial intelligence, and narrative theory*. Bloomington, IN: Indiana University Press.

Saito, Y., & Ogata, T. (1998). On the computational modeling of Freud's dream theory. In *Proceedings of the 12th Annual Conference of the Japanese Society for Artificial Intelligence* (pp. 706-706). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Seki, K., Nomura, J., & Ōshima, H. (Eds.). (1980). *Nihon mukashibanashi taisei—11, shiryō hen* [Complete collection of Japanese folktales: Vol. 11, data]. Tokyo, Japan: Kadokawa Shoten.

Shiller, R. J. (2017). *Narrative economics*. Cowles Foundation Discussion Paper. 2069.

Shklovsky, V. (1990). *Theory of prose* (B. Sher, Trans.). Dalkey Archive Press. (Original work published 1925)

Solms, M. (1997). *The neuropsychology of dreams: A clinic-anatomical study*. London, UK: Psychology Press.

Stockwell, P. (2002). *Cognitive poetics: An introduction*. New York: Routledge.

Sugawara Denju Tenarai Kagami. (1971). In *Nihon koten bungaku zenshū, 45* [Japanese classic literature collection, 45]. Tokyo, Japan: Shōgakusan.

Takahashi, R. (2003a). *Maison Ikkoku*, Vol. 1. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2003b). *Maison Ikkoku*, Vol. 2. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004a). *Maison Ikkoku*, Vol. 3. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004b). *Maison Ikkoku*, Vol. 4. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004c). *Maison Ikkoku*, Vol. 5. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004d). *Maison Ikkoku*, Vol. 6. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004e). *Maison Ikkoku*, Vol. 7. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004f). *Maison Ikkoku*, Vol. 8. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005a). *Maison Ikkoku*, Vol. 9. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005b). *Maison Ikkoku*, Vol. 10. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005c). *Maison Ikkoku*, Vol. 11. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005d). *Maison Ikkoku*, Vol. 12. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005e). *Maison Ikkoku*, Vol. 13. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005f). *Maison Ikkoku*, Vol. 14. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2006). *Maison Ikkoku*, Vol. 15. VIZ Media LLC. (Original work published 1980-1987)

Takechi, T., & Yamamoto, Y. (Eds.). (2017). *Kabuki shirōto kōsyaku* [Kabuki amateur's lecture]. Tokyo, Japan: Alpha-beta-books.

Terada, T., Akimoto, T., Jumpei, O., & Ogata, T. (2014). Tōgō monogatari seisei system ni okeru koyūmeishi gainen no taikeiteki kijutsu [A systematic description of proper noun concepts in the integrated narrative generation system]. In *Proceedings of the 20th Annual Meeting of the Association for Natural Language Processing* (pp. 217-220). Tokyo, Japan: The Association for Natural Language Processing.

Ueda, K., & Ogata, T. (2004a). Classification and combination of perspective in narrative. *Proceedings of the 9th International Symposium on Artificial Life and Robotics*, 2, 597-600.

Ueda, K., & Ogata, T. (2004b). A computational modeling of perspective and voice in the narrative rhetoric. In *Proceedings of 18th Congress of the International Association of Empirical Aesthetics* (pp. 480-486). Rome, Italy: University of Rome Tre.

Introduction

Watanabe, N. (2012). *Nihon shōsetsu gijutsushi* [A history of technologies of Japanese novels]. Tokyo, Japan: Shinchōsha.

Watanabe, N. (2017). *Nihon hihyō taizen* [Complete collection of Japanese critiques]. Tokyo, Japan: Kawade Shobō Shinsha.

White, H. (1973). *Metahistory: The historical imagination in nineteenth-century Europe*. Johns Hopkins University Press.

White, H. (1980). The value of narrativity in the representation of reality. In W. J. T. Mitchell (Ed.), *On narrative*. Chicago, IL: The University of Chicago Press. doi:10.1086/448086

Yokomitsu, R. (1986). Junsui shōsetsu ron [Pure novel theory]. In *Showa bungaku zensyū*, 5 (pp. 606–614). Tokyo, Japan: Shōgakukan. (Original work published 1935)

Yoshimoto, T. (1965). *Gengo ni totte bi toha nanika* [What is beauty for language?]. Tokyo, Japan: Keisō Shobō.

Yoshimoto, T. (1968). *Kyōdō gensō ron* [On communal-illusion]. Tokyo, Japan: Kawade Shobō Shinsha.

Zeami Zenchiku. (1974). *Nihon shisō taikai*, 24 [Japanese philosophical thoughts collection, 24]. Tokyo, Japan: Iwanami Shoten.

Zhang, Y., Ono, J., & Ogata, T. (2011). An advertising rhetorical mechanism for single event combined with conceptual dictionary in narrative generation system. In *Proceedings of 7th International Conference on Natural Language Processing and Knowledge Engineering* (pp. 340-343). New York: The Institute of Electrical and Electronics Engineers. 10.1109/NLPKE.2011.6138221

Zhang, Y., Ono, J., & Ogata, T. (2012). Single event and scenario generation based on advertising rhetorical techniques using the conceptual dictionary in narrative generation system. In *Proceedings of the 4th IEEE International Conference on Digital Game and Intelligent Toy Enhanced Learning* (pp. 162-164). New York: The Institute of Electrical and Electronics Engineers. 10.1109/DIGITEL.2012.46

Chapter 1

What Are Narrative Generation Phenomena?

ABSTRACT

First, this chapter introduces an idea that deals with narrative phenomena as the integration between the individual (narrative generation and reception system) and social levels (narrative production and consumption system); this idea is called the “multiple narrative structures model.” This chapter describes the future image of a human-machine symbiosis system that includes narrators and receivers as artificial intelligence. Furthermore, based on the concept of “visible narratives” and “invisible narratives,” the author analyzes the narrative components or elements to consider methods for synthesizing the analyzed elements. This idea of the analysis and synthesis of various narrative elements will be systematized in the “integrated narrative generation system.”

INTRODUCTION

This chapter comprehensively introduces diverse topics and terms concerning discussions of narrative generation throughout the book, based on the partial revisions and expansions of Chapters 2 and Chapter 3 by Ogata (2018a, 2018b) in a book by Ogata, Kawamura, and Kanai (2018).

The next section, **NARRATIVES AND HUMANS/SOCIETIES/MACHINES: TOWARD A SYMBIOSIS OF HUMANS/MACHINES FROM MULTIPLE NARRATIVE STRUCTURE**, introduces an idea that

DOI: 10.4018/978-1-5225-9693-6.ch001

Copyright © 2020, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

deals with narrative phenomena as the integration between the individual level, “narrative generation and reception system,” and social level, “narrative production and consumption system”; this idea is called the “multiple narrative structures model.” The multiple narrative structures model is frequently referred to in this book, and it is explained in detail in Chapter 4. This section also describes the future image of the “human-machine symbiosis system,” which includes narrators (senders) and narratees (receivers) as Artificial Intelligence (AI). The description of the chapter includes important concepts in this book such as story, narrative discourse, narrative representation, expanded literary theory, fluidity and fixation, *Geinō* Information System (GIS), content, narrative genres, and intertextuality.

Next, in **FROM NARRATIVE DECONSTRUCTION TO SYNTHESIS: VISIBLE NARRATIVES AND INVISIBLE NARRATIVES**, based on the pair concept of “visible narratives” and “invisible narratives,” the author analyzes narrative components or elements to consider methods for synthesizing the analyzed elements. Visible and invisible accurately mean “perceptible” and “not perceptible.” This idea of the analysis and synthesis of various narrative elements will be systematized in an Integrated Narrative Generation System (INGS). In addition, the author takes a stand on the plural thought of narratives. For example, the author does not think that invisible narratives or invisible elements, i.e. narrative deep elements, are more important than visible narratives or visible elements, i.e. narrative surface elements, and the former dominates and controls for latter. In narratives, both the deep elements and surface elements are important and efficient. The multiple narrative structures model supports the multiplicity and plurality of narratives. Further, this section also considers the method of synthesizing the analyzed narrative components and elements. The idea of the analysis of synthesis of narrative components and elements will be systematized and implemented concretely in the description of INGS in Chapter 1 in the sequel (Ogata, in press) of this book.

NARRATIVES AND HUMANS/SOCIETIES/MACHINES: TOWARD A SYMBIOSIS OF HUMANS/MACHINES FROM MULTIPLE NARRATIVE STRUCTURE

This section introduces an idea related to the multiple narrative structures model that deals with narrative phenomena as the integration between the individual level or the level of narrative generation and reception system and social level

or the level of narrative production and consumption system. Moreover, this section describes the future image of the human-machine symbiosis system, which includes narrators (senders) and narratees (receivers) as AI.

Toward a Multiple Narrative Structures Model from the Phenomenological Diversity of Narratives

The source of this author's research theme is the "narrative generation system." Specifically, it mainly means software systems that use AI (artificial intelligence)-related technologies to generate narratives automatically.

Just as the medium of the book generated a new genre of narrative called the novel, and the medium of the motion picture camera generated a new genre of narrative called the motion picture, the new medium called the computer also has the latent potential, and probably a large potential, to produce new narrative genres. The author is taking the long view and is linking the potential of the medium of the computer to the development of new narrative genres. The narratives generated in this way are essentially narratives that are content in digital format, in other words "information content," used for creating (creativity, production) computers, for the purpose of distribution and reception, and on the other side of genre creation we are refraining from pursuing a goal of creating separate narrative content itself (a piece of work). However, in actuality both of these will likely develop mutually.

In order to proceed with the work described above, instead of developing and using technology to generate narratives on a localized level, it will be necessary to expand our perspective and approach the fundamental problems of what is narrative, what is its universality as a genre, and what are the individual characteristics of subgenres or individual works. In this chapter, the author would like to trace a route that connects the consideration of the narrative on this fundamental level with a narrative generation system as technology. In other words, the author will describe his narratology (or, narrative theory), as a context for the study of narrative generation as technology. Rather, the entire group is the author's narrative generation research. In that sense, the narrative generation system as technology is termed, in a narrow definition, a narrative generation system. Naturally, the author's narratology and narrative theory focuses on narrative generation systems and attempts at an "information narrative theory."

Phenomenological Diversity of Narrative and Expanded Literary Theory

If narrative is viewed in as wide a range, both temporally and spatially, as possible, huge genres are created and works are produced. The author called this type of ambitious approach, which attempts to perceive the mode in which narrative exists (existed) in this world as much as possible in its entirety, a phenomenological approach to the modern study of the narrative but also the narrative (Ogata, 1999a). Ogata (1999b, 2000) classified the narrative genres (based on the names in general circulation) extracted from sources such as encyclopedias, and called it “Narrative Genre System.” He discovered that the primary characteristic is diversity, and that many genres have a strong association with media.

However, the analysis and criticism of individual works is not the primary goal of the author’s research. One of the ultimate aims is artistic and literary activity, the creation of a work that surpasses the research, but in order to avoid returning to a specific genre, in the preliminary stage the author will try as much as possible to view narratives uniformly. The author intends to structure the narrative generation system that is under development and will be described in detail in Chapter 1 in the sequel (Ogata, in press), so that it is not dedicated to separate genres, but will be generic.

In the area of literature as well, research areas exist that aim to discover universal mechanisms in narrative. Narrative theory looks at uniformity and universality passing through phenomenological diversity in narrative through the structure and format of narrative itself. Within narrative theory itself, a variety of literary currents of thought have had their effect and are currently diffused (Bal, 2004a, 2004b, 2004c, 2004d). One aspect of this author’s research is a delayed continuation of pure narrative theory.

At the same time, narrative is a cognitive phenomenon created and perceived in the human brain. (Along with the phenomenological approach as described above, it is also possible to take phenomenological approaches to the link between the brain and psychology.) The author believes that there is a unique commonality and universality in the process of narrative generation and reception. Furthermore, many cognitive scientists recognize that narrative plays an extremely large role for humans (Schank, 1990; Tokosumi, 2007). The study of narrative itself has not yet formed a direct link with brain research, but it is certainly now an important research topic in cognitive science. Also, cognitive science is an academic fundamental of AI, and both are closely

What Are Narrative Generation Phenomena?

connected. One point of view has come into being that attempts to discover universality and generality of the narrative “generation to reception process” from a cognitive science and AI viewpoint.

Therefore, the author has continued thinking about exploring a route approaching universality and generality of narrative through a blending of humanities such as narrative theory and cognitive science, AI and information science. Then the author called his research concept, which integrates both from the standpoint of narrative generation research, the expanded literary theory (Ogata 2003a, 2003b; Ogata & Morita, 2002). From this description, information narrative theory is not simply perceived from the narrow meaning of assistance by information technology. It is the information narrative theory, in that sense, which intends to actively incorporate valuable knowledge in old humanities and sociology as well to internalize it.

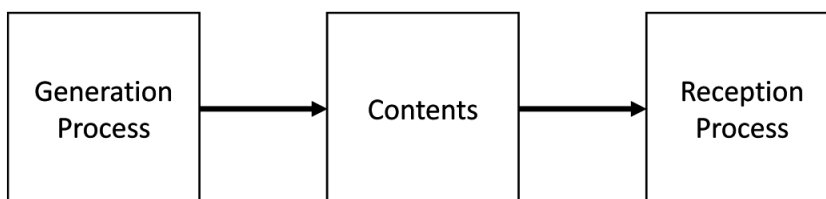
Narrative Generation and Reception Process: Human System of Narrative

Figure 1 is an extremely simplified diagram of the narrative generation reception process. The explanation starts from “Content (itself)” in the middle.

Content (Itself)

Here, content signifies works that are expressed concretely by means of a specific media. It means the narrative work itself, such as a novel or film. When it is limited to narrative in specific it is sometimes called “narrative content.” Also, it is possible to call content expressed in digital form the information content, but in this tangible definition are included all content from existing media that have been digitalized, so it ends up having an extremely broad scope. That is somewhat vague, but as described above, digital content that was

Figure 1. Simplified diagram of narrative generation reception process

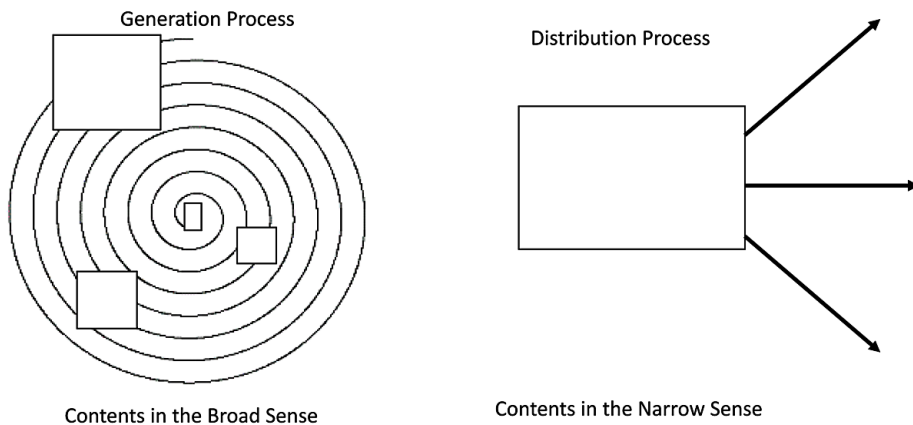


originally used for the purpose of creating computers such as (production and creation), logistics and acceptance, are called information content in specific.

How the range of certain narrative content is delimited reveals the special qualities of the narrative generation system and the narratives created by the system. First, let's consider traditional narratives, namely narrative content other than information content. For example, there are in existence manuscripts, from a type of author such as Marcel Proust (1871-1922), Franz Kafka (1883-1924), and Kenji Miyazawa (1896-1933), that are works in progress, huge quantities of drafts that were not from works that eventually were published, or were never intended to be published. Since these were created in the process of creating works that were published or works that were regarded as the final achievement, the actual paper manuscripts remain in substantive form. For example, there are manuscripts, 10 manuscripts in chronological order, created by a certain author for a work that is given a single title. When the final version is published by the author in the form of a book, do all of the 10 types of manuscripts count as narrative content? Or, does only the form that was eventually published into a book count? Or, more simply, does the book become the content, or do the manuscripts become the content? Figure 2 divides contents into two levels.

The author does not set up an absolute distinction between the two. However, in the case of a traditional narrative genre such as a novel that could be published as a book, the novel that is published and goes into the distribution channels is considered to be content in the narrowest meaning, and by contrast the manuscript that was in the process of becoming the

Figure 2. Contents in a broad sense and contents in a narrow sense



What Are Narrative Generation Phenomena?

book (called “Draft N”) is treated as content in a wider sense. In any case, a group of characters written on paper exist. Therefore, content as described here is in itself different in terms of narrow and wide definitions. However, it is a concept that refers to static narrative as a substance. Even if there are differences in the quality of the content and the substance of the narrative between the final content of a given work, which has been created through repeated refinement and revisions, and Draft N, which is partway through the process, both are treated as having narrative content, and both are seen as having common characteristics as narrative content. Here, what must be examined concerning “narrative content in itself” are these common characteristics and determining factors.

When analyzing narrative content components conceived as above, a distinction is set up between “visible elements” and “invisible elements.” The be all and end all of the former are the physical substances such as character set in the case of novels or images in the case of films, but at the next level are the elements that in the text itself these objects are described or expressed explicitly. For example, in the case of the novel, they are the characters, things, places, and scenes that are depicted concretely. In film, they are concrete forms that are expressed as screen images and can be seen directly. Furthermore, from these forms themselves their meaning gradually emerges. Precisely speaking, awareness of meaning and awareness of form occur simultaneously. Furthermore, “protagonists” who are important within a certain work, or places or things that play special roles, and their forms themselves are elements for which strong or high (high level of “invisible”) meaning is incidental, thus approaching “invisible elements.” Then here the story is perceived as the quintessential “invisible element.” Rather than being expressed directly inside the work, these are elements that the receiver intuits, and instead the results of interpretation gradually surface through the reception process. Naturally, it is conceivable that the author (sender) has already, in advance, intentionally structured the event chain so that a certain interpretation is possible, so that a certain story interpretation is generated in the receiver. If, however, the receiver arbitrarily intuits a certain story from a number of concatenations that do not align with the purport of the prescribed events, the receiver naturally arbitrarily imagines a story that is different from the story that the author intended. Stated either way, these elements correspond to a type of “invisible element” in a narrative.

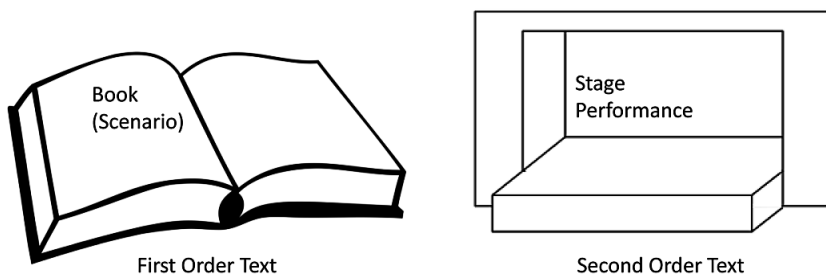
As suggested from the above, narrative content is placed at the center, and the generation process and reception process are placed on either side. In Figure 3, the generation process, narrative content, and reception process are

linked in sequence. There is no problem with this in the case of narratives such as traditional novels. When the reader, who is the receiver of a certain novel, receives the narrative content, the generation process of the author, who is the sender, is already finished. Both parties operate completely independently. However, a type of tense relationship exists between the intent or objective of the generation and the interpretation of the reception. There are occasions when the narrative content must be placed in the middle and associated with both, and investigated. In narratives such as theatre, this type of tense relationship is more direct, because the sender of the final narrative content has direct contact with the receiver. In the case of the narrative that is theatre, there is the text, called “drama,” which is usually expressed in the same book form as a novel, and the receiver receives it in the same way as they would when reading a novel. Then there is the existence of more direct text as theatre, in which the main essence is the characteristic physical movement of actors performing on the stage space in the theatre. Tamotsu Watanabe’s (1936-) (2004) concept of “first (level) text” and “second (level) text” (Figure 3) is relevant to this, but this will be addressed in detail in Chapter 2 in the sequel (Ogata, in press), with *kabuki* as the subject.

Generation Process

The narrative content generation process is seen as work that embodies “invisible elements” by way of “visible elements.” As described above, the quintessential “invisible element” is the story. The most foundational task in the generation process is to embody the story in the grouping of the “visible elements” via characters, things, the staging, and location. However, there is probably diversity among every author in terms of how to actually accomplish this. For example, if some authors start creating their works after structuring

Figure 3. First (level) texts and second (level) texts



What Are Narrative Generation Phenomena?

the story in detail in advance, conversely there are probably authors who firm up their story gradually as they write. Furthermore, a narrative generation process that does not follow a process such as that described above, an anti/non narrative generation process (Ogata & Kanai, 2010), is also conceivable. For example, if the author, by trying various devices in the locations of the “visible elements,” deliberately makes it difficult for the receiver to converge on an interpretation of a consistent story. However, even in this case, the very existence of the story itself is of course not completely annihilated. In examples such as the novel *Yabu no Naka [In a Grove]* by Ryūnosuke Akutagawa (1892-1927) (1977b) and the film *Rashōmon* by Akira Kurosawa (1910-1998) (Kurosawa, Hashimoto, 1988), rather than the story not existing, the narrative is developed with the difficulty of convergence to a consistent story as its linchpin, and one could also consider that the existence of the story is actually emphasized even more. In a radical sense, to avoid or escape the dominance of the “invisible elements” in narratives that are represented in stories, or to annihilate them, is extremely difficult.

Many tasks exist that have a different type of embodiment to this. Even supposing a story has a fairly detailed realization, its character as an “invisible element” is still at a relatively strong level. In the final analysis, it must be converted into a completely “visible element” by means of superficial representative media such as words, images, or music. This type of narrative itself as a “visible element” is sometimes called narrative discourse in categories and classifications of narrative theory. Story and narrative discourse are categories and classifications in narrative, in its most intrinsic meaning. However, narrative discourse can be divided further into two major levels. While the broad meaning of narrative discourse means all of the things in the text of a narrative that are actually described or represented, narrative discourse can be further divided into the structural level and the representation level. The latter is the representation using concrete representation media such as words, images, music and bodies, and the “visible elements” in the final meaning of the narrative content is generated by the generation process.

In general, the layer of the structural level narrative discourse is trapped between the story and the representational level of the narrative discourse. For example, stories in narratives are often narrated in retrospective from the present to the past, or specific events are narrated repeatedly many times. In other words, before “making things visible” using the most superficial representational media, proximity to “visible elements” at the structural level of the representation is established. Here also, it is possible to intentionally employ strategies to obstruct the easy recognition of “invisible elements”

by making the narrative discourse excessively confusing and complicated. At the same time, this type of strategy can have the objective of accelerating the receiver's attention to the "visible elements."

Reception Process

In contrast to the generation process, the narrative reception process most typically is a process by which the receiver establishes the interpretation of the "invisible elements" by way of the "visible elements." Through contact with narrative discourse as "visible elements" in the narrative content, many receivers gradually mentally construct a story of "invisible elements," and feel that the reception activity has finished with the establishment of a consistent and convincing story. However, during this process, many of these "visible elements" end up being trimmed from the receiver's consciousness. This resembles the condition explained by Michimata and Okada (2012), whereby most information that is perceived by means of human cognitive and memory processes is rejected, and only a very small amount of information contributes to the construction of meaning. Furthermore, this process is constituted from two aspects, bottom up and top down, and resembles the condition by which the schema that is the existing cognitive structure (propounded by Bartlett (1923)) is mobilized from the top down. In cognitive science, David Rumelhart's (1942-2011) and others have proposed various story schema as types of schema. In this way, the thing that makes a reductive focus on "visible elements" in narrative content difficult is that based on a type of cognitive interpretive process, reduction to "invisible elements," and specifically interpretation of the story, are required as goals, and they are naturally considered by receivers. The story forms the core of the meaning of the narrative. Humans are animals that when faced with certain events (or group of events), insist on discovering the story, even if they have to force it. At the same time, due to the association with the anti/non narrative generation process, one could also imagine there being an anti/non narrative reception process. This goal is the salvation of the "visible elements" from the "invisible elements." Each and every receiver is made to practice reception that foregrounds the components other than the story. This type of work, through collusion by the sender side with the anti/non narrative generation, involves the possibility of linking to qualitative variation of the narrative content itself and its genre.

Narrative Production-Consumption Process: The Social System of the Narrative

The narrative generation-reception processes described above are processes that have individual humans as their units. This corresponds to a process whereby a certain novelist, using thought, has narrowed down a plan and expressed it in words, and a certain reader reads and interprets it. However, observing the process more realistically, in the case of the novel that is a book, a variety of different types of tasks are involved, performed by individuals other than the author, such as the publishing company, and specific people (such as editors) who structure it, which insinuate themselves into the actual process. When a certain narrative goes into the social circulation process, various elements penetrate into it that cannot be fully expressed by the generation-reception model at the level of the individual. For example, who is the author of a film? Is it the director of the film? Is it the screenwriter? Is it the producer? Many other people beside the author intervene and are involved in this generation process (representation or production process), and in totality they make up what could be called the author/collective author.

Let's consider another genre. For example, "*gidayū kyōgen*," which are *kabuki* plays based on works that were originally written for *ningyō jōruri*, (Japanese puppet theatre) (and are in fact, the majority of *kabuki* plays that are currently performed), are composed of the original script created for *jōruri* narrative and puppet acting (what Watanabe (2004) terms the "first (level) text"), and the process by which human actors perform is similarly called the "second (level) text." The latter is not always fixed down in writing. Rather, it is extremely rare for it to be transcribed. However, in recent years, many performances have been preserved in video. It is not necessarily true that the lines themselves hold the primary importance. The patterns ("*kata*") performed by the actors with their bodies are of the most importance. The substance of the second (level) text of *kabuki* is made up these patterns of *kata* developed by famous actors for certain plays. Due to the differences in *kata* according to the Kikugorō (Onoe Kikugorō VI (1885-1949)) style or Chūsha (Ichikawa Chūsha VII (1860-1936)) style for the same scene in the same play, individual body movements and their sequencing are different. Many of these types of texts can only be practiced through direct transmission. This complicates the role of the author in *kabuki*. Therefore, in the case of *gidayū kyōgen*, the author is in a three-way multiplex with the author of the original *ningyō jōruri* play, the author who adapted it for *kabuki*, and then the actors who

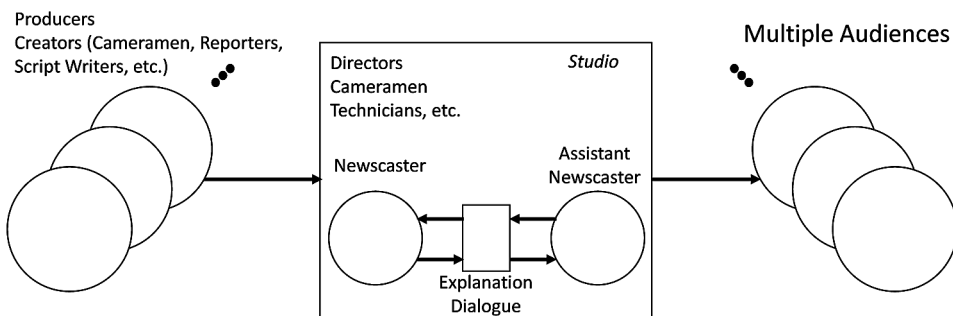
create the second (level) text as described above. Furthermore, after the age of Chikamatsu Monzaemon (1653-1725) and Ki-no Kaion (1663-1742) had passed, and starting from the age of Takeda Izumo I (?-1747) and Takeda Izumo II (1691-1756) and Namiki Sōsuke (1695-1751), works for *ningyō jōruri* were normally written by multiple writers in collaboration. In any case, the work of art did not converge on a single individual called the author.

The above example demonstrates that the narrative generation-reception process, which is based on the individual, extends to narrative production-consumption process, as a group, organizational, and social system. The narrative production-consumption process encompasses the narrative generation-reception processes multiply.

Figure 4 shows television news as another concrete example of the narrative production-consumption process. Here, the producer uses subject matter from the real world, and based on that creates a scenario or images of the narrative. With the studio camera people and other studio personnel in the background, as the newscaster and assistant newscaster discuss it with each other, the images are delivered (broadcast) to multiple listeners.

In the above example, human elements such as media reporters and script writers are equivalent to the individual functions in the narrative generation-reception process. These functions mean the work units for narrative generation-reception, such as story generation and narrative discourse development, etc. If a story is generated, the functions such as setting the characters and scene (location) can be further segmented. In the narrative production-consumption process, such as for the television news program discussed here as an example, the various functions in the narrative generation-reception process are assigned to the corresponding human elements. (Naturally, it is conceivable

Figure 4. Concrete example of the narrative production-consumption process (television news)



What Are Narrative Generation Phenomena?

that multiple people could take on functions prescribed as single units in the narrative generation-reception process, and also that a single person could be assigned multiple functions.) For example, a news reporter's primary work is to collect fragmentary information from the real-life society, but according to their correspondence with the narrative generation-reception process, it is equivalent to collecting various kinds of fragmentary information as raw materials for a story that is unified as a whole.

The above example illustrates that the same function in a narrative exists in both the level of individual cognition and brain levels and also the levels of organizations, groups, and even societies. In the final analysis, the production and consumption of narrative on the levels of society, organizations and groups are supposed to reach convergence by processing on the level of individual cognition and brain level, but here, rather, based on the concepts described above, the two processes, narrative generation-reception and production-consumption, are understood to be superimposed. For example, the function of the screenwriter in a film is to fulfill the role of creating the conceptual content of the narrative (such as the various components of the story and its world) prior to the superficial expressions. The work of the film director, camera people, actors, and many other related people is to perform the work after that, and also based on that, correspond to the narrative expression process. Also, if individual tasks are thought of as functions, it becomes possible to separate them out and consider which people will be responsible for them. For example, the possibility exists that the roles of screenwriter and film director might be filled by the same person, or that multiple screenwriters will write one script collaboratively, such as in the earlier example of *ningyō jōruri* and *kabuki*.

Multiple Narrative Structures Model

The aim of the multiple narrative structures model is to develop a unified understanding of the narrative generation-reception process as an individual process, and the narrative production-consumption process as a social process. The concept of the functions that connect the two, and the subject that is responsible for it, is the work content for narrative generation, aiming only for those abstract workings and effects, regardless of whether it is an individual thing, a group or organizational thing—in other words, it means techniques and technology.

For example, the method whereby multiple screenwriters write one script collaboratively was the general way to create *ningyō jōruri* (later *kabuki*) plays during the Edo era. Compared to other Edo era playwrights, Chikamatsu Monzaemon created most of his works on his own. This has probably contributed to the high praise of Chikamatsu, which lacks balance (in my opinion), in the modern period. Conversely, at the same time as wanting to express “genius,” as judged from the frequency of a playwright’s works being performed, the most popular *jōruri* playwright was Namiki Sōsuke (Senryū). According to the Tsubouchi Memorial Theatre Museum, Waseda University (2009), one cause of Namiki’s low name recognition could be the fact that many of his works were collaborations. Honoring the individuality of the single author relies on the modern concept of the author. In the case of collaborative authorship of *ningyō jōruri* plays, the writing was divided up by each of the acts. There was an author who supervised the writing of the entire play (called the “*tate-sakusha*”), and secondary authors. Distinction was made between authors who wrote important scenes and those who did not. Many think that the improvement in the quality of the plays was due to the multiplier effect of the multiple authorship. For example, in the play *Sugawara Denju Tenarai Kagami* (1971), the second act (including the scene *Dōmyōji*), the third act (including the scene *Sadamura Ga no Iwai*), the fourth act (including the scene *Terakoya*) with “*betsuri*” (“separation”) and “*migawari*” (“scapegoat” or “sacrifice”) have the same themes, and are identified as having been written by Miyoshi Shōraku, Namiki Senryū (Sōsuke), and Takeda Izumo II). It is hard to say which scenes are the best. It is regarded as a true masterpiece.

Thus, the multiple narrative structures model is a framework for unifying the narrative generation-reception process and production-consumption process, with the narrative function as the axis. Another characteristic is that the bearer is configured as a model that is converged from generation-reception level to the production-consumption level in line with a temporal process. The first thing that can be prescribed is the generation-reception process at its simplest level. It takes the shape of a sender that is an individual unit and a receiver as an individual unit that face each other directly. With this as the starting point, formats with multiplicity of senders, multiplicity of receivers and indirect transmission are generated. The genres taking the simplest generation-reception form are fairy tales and folktales at the primitive level. (Naturally, these also exist in the present time. This is not to imply that they are at a low level in terms of narrative.) Indirectness of communication applies to the majority of narrative genres, various types of narratives such as novels

What Are Narrative Generation Phenomena?

which use books as media, radio dramas, television dramas, and films, which focus on modern narratives. The multiplicity of receivers applies to many narrative forms such as novels which have parts that have multiple senders, theatre and film, etc. in a larger form. From here, this author believes that the narrative genre types are at least partially related in terms of multiplicity of sender, transmission and receiver in this type of multiple narrative structure.

On the other hand, it is fairly difficult to consider the phenomenon called multiple receivers. For novels, films and the theatre, it is thought that the receiver receives the objective at basically the individual level. However, in the case of the theatre, the actor standing on the stage of the theatre looks out at the audience seats with a macroscopic view. The audiences who are seen from that viewpoint are regarded as a group called the audience (receivers) made up of individual receivers. Here, in general, when multiple receivers exist for a certain work of art, and if among them some sort of organic relationship is formed, these multiple receivers are not simply a group of randomly-existing receivers. They are to be regarded as a collective receiver composed of a multiplicity of individual receivers. In the theatre, the establishment of an organic relationship means that it exists at that time with one certain seat in the theatre. At a lower level, multiple small groups are included, such as between friends, parent and child, and colleagues at a company. If one considers these relationships from a wider perspective, they could be considered to be externally tabulated in a statistical way. However, if one considers the statistical tabulation that applies to the generation side as a different level, one would want to consider collective receivers in a narrow sense as specified by places and social relationships. On the other hand, there must be situations where a single narrative content can be divided into multiple subjects. For example, a situation in which three viewers of a single movie view it in three groups (and then discuss the film together) is not inconceivable.

A system which is not limited a single piece of targeted content is conceivable. For example, according to a broad and loose conclusion, a situation is conceivable in which fragmentary narrative content groups that are repeated in chains and continuously exist are selectively received by multiple receivers. In this case, even if individual content exists, rather than saying these have the most important existential value in themselves, to say that chain is what should be emphasized, and it is the narrative that emerges as the aggregate. Also, the individual receivers who surround this type of content group probably do not receive all content equally. Each receiver selectively receives fragmentary content, and sometimes receivers change into senders.

Therefore, the different functions of sender and receiver are served by a single subject. In this sense, it is in a situation close to conversation. Multiple sender groups collaboratively edit the narrative content as a single whole from a fragmentary collection, and at the same time multiple receiver groups receive the content in a localized way. This is the state of fluid narrative generation-reception and narrative production-consumption. Examples of this kind of narrative circumstance in the most current information technology products, so-called social media, come quickly to mind. This kind of situation will be more generalized if one considers the products of a narrative genre as one collective narrative content. For example, if one assumes the novel genre from a specific time period is the totality of the narrative, and then form of the receiver clustered together with the sender would be the same as in the example described above. Multiple senders create many pieces of content called novel works, and multiple receivers receive specific things from among them. In many cases, the sender is also the receiver, and a certain portion of the receivers are also simultaneously sending. Up until now, the terms group, organizational, and social with regards to narrative production-consumption have been used without differentiation, but when speaking of social production-consumption, they should be considered to refer to the above situation. Inside the words group and organization are attached an element called subjective intention, to a greater or lesser extent. Also, the limitations on a group are looser than on an organization, but are not as vague as those of society. In the case of society, intent is created, or applied later and interpreted. It should be distinguished from organizations and groups.

***Geinō* Information System**

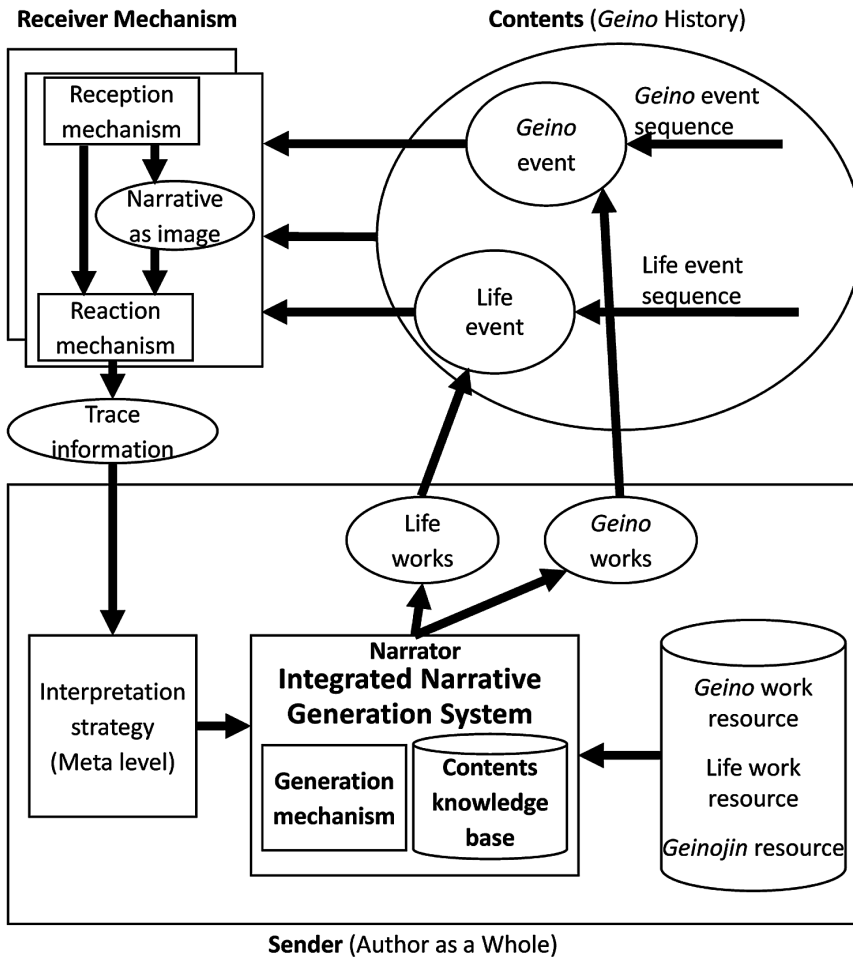
The *Geinō* Information System (GIS) (Kawamura & Ogata, 1999, 2000a, 2000b; Amino, Kawamura, & Ogata, 2002), which this author proposed with Kawamura, the co-author of this book, is a model made up of one of the embodiments of the multiple narrative structure. Furthermore, it is a general model. Kawamura studies the concept of *geinō* information systems based primarily on entertainment organizations and entertainment companies (Yoshimoto Kōgyō and others). By contrast, Ogata studies *geinō* information systems in light of his research on specific *geinō* genres, primarily on Japanese folklore studies and theatre research, and specifically on *kabuki* and *ningyō jōruri* (Ogata & Kawamura, 1997a, 1997a, 1998, 1999). The word *geinō* in Japanese language has an extremely wide range. It is a term that carries unique

What Are Narrative Generation Phenomena?

concepts and means. Even the word narrative, according to this author, should be spoken of as *geinō* rather than literature or art. If the literary tradition in Japan as *geinō* had come to us as an underground stream in the literature of the early modern and modern period, it would have taken a different route of direct transmission, and the possibility exists that narratives could have been created that substantially inherited *geinō*'s spirit and specific techniques.

Figure 5 shows a conceptual diagram of the *geinō* information model. This is a proposal by Kawamura and Ogata (2000b). No doubt there will be revisions and changes throughout future concrete work, but we have reintroduced it here as an occasion to resume the research that had been temporarily discontinued. GIS will be addressed in more detail in Chapter 2 in the sequel (Ogata, in press). In its multiple structure, the narrative as an individual *geinō* work always exists in a mixture, with the narrative, as the actor who performs it. In actual fact, the uppermost objective for quite a few viewers of *kabuki* is to see specific actors (*yakusha*) rather than to see certain plays (works, playwrights, staging, etc.) The popularity of different stagings of the same play greatly depends on which actors are playing. This situation is probably the same with film, but the special characteristic of *geinō* such as *kabuki* is that in many cases actors (not just actors but also including music and musicians) are preserving and transmitting a single narrative over many generations. Many viewers, while watching Ichikawa Ebizō XI (1977-) acting in a play before their eyes are recalling past Ebizōs whom they had seen formerly, and they are thinking of his father Ichikawa Danjūrō XII (1946-2013), and the Ebizōs and Danjūrōs further back in history. If one places the play at the center, some plays have been performed by various actors, but it is also possible to see the body of an actor's work (discography) performing in multiple plays. In this way, inside a *geinō* narrative such as *kabuki*, multiple structures of various types of narratives are manifested prominently, such as the narrative of the play being performed, the narrative of the lives of individual actors, and furthermore the narrative of the characters (since many characters appear across multiple plays and across multiple genres). In this way, under the multiplicity of the GIS model, a single play by itself is not necessarily the most important. For many plays, repeated production-consumption makes them more important. Actors have their own life narratives as entertainers. During the development process, narrative generation work is iterated, and certain types of receivers also follow that iteration process. During that iterative narrative production-consumption process, the narrative power on various levels and their connections continue to become continually more powerful.

Figure 5. Draft architecture of *geinō* information system



Vision of the Narrative’s Human-Machine Symbiotic System

At present, this author’s main research goal is the construction of a narrative generation system, but for that purpose, an “information deconstruction” of the narrative based on the function based on the concepts described above is required. It is cross-linked to the construction of a narrative generation system as a synthesis. The larger framework of the narrative information deconstruction and synthesis to narrative generation and cross-linking to it will be discussed in the latter half of this chapter. This chapter attempts to

What Are Narrative Generation Phenomena?

discuss a direction in which this scenario that converged on the narrative generation system is heading, and a vision in which this author's research aims at a goal of mediating the narrative generation system. However, in an even broader meaning, it also relates to a vision concerning one general way for a narrative to be in line with the emergence of narrative as information content. This is because, in future, this author's narrative generation system will function by mixing as one single system inside countless other narration generation systems.

Furthermore, the narrative generation system in such a situation is not necessarily referred to as a machine. The narrative generation systems that are human beings are also included. The narrative generation system discussed here is a wider, general concept that does not make a distinction between machine and human. All living humans are probably a type of narrative generation system. An extremely small portion of them are writers by occupation, such as novelists or playwrights or film directors. Conversely, some narrative generation systems exist that almost never generate narratives for social distribution. It is certain that this type of narrative generation system exists. In this discussion, the questions of quality and value as narrative are disregarded, but in this author's narrative practice, it is necessary to prepare a route for finally arriving at the problem of fact and value from function. One could say that it is a route to the goal of creation of the narrative itself. The concepts of fluidity and fixation and intertextual narrative generation, described below, are concepts and devices that are theoretical and practical, and related to the actual creation of narrative. Furthermore, in the space where multiple narrative generation systems, including mechanical ones, are incorporated, it is even a type of situation theory concerning the problem of how multiple narratives are produced and consumed. The above-mentioned practical devices are terms that shed light on those things. Even the process of putting the character into creation of narrative will probably change substantially. For example, in the new world and situation of narrative production-consumption, similar to the narrative generation system of professional authors at present, in a narrative generation system that tacitly socially evaluates value, the value (social, literary, artistic, etc.) will likely go up and down, and the ranking order will start afresh.

Fluidity and Fixation

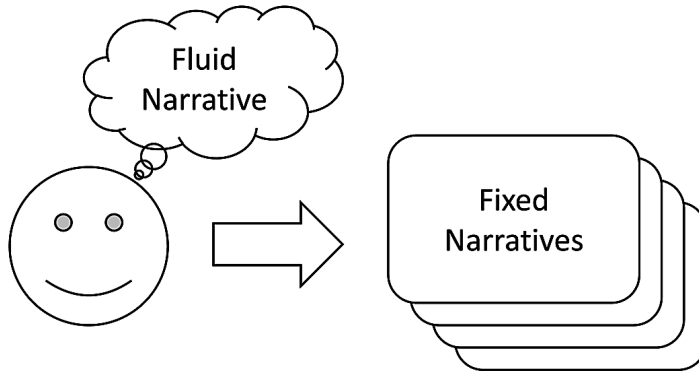
Figure 1 showed how one piece of narrative content is created via the narrative generation process. To describe it in a simplified form, here, the generation process is called fluid (generic concept and terminology that includes fluidity and fluid states, etc.), and the narrative content is called fixation (generic concept and terminology that includes fixedness and fixed state, etc.). In the vortex of the narrative generation process are multiple possibilities (the content template), which are not determined to be the one, coexisting fluidly (viewed from the opposite side, mutually rejecting one another). Among them, only one is selected by some sort of mechanism, and the final narrative content is generated and fixed. If the ability of the narrative generation system to bring out narrative content as latent multiple possibilities according to inputs and environments and situations is called fluidity, settling on narrative content as a single work is equivalent to fixation. This author believes that the framework is basically the same when the narrative generation system is a human and when the narration generation system is a machine. At the same time, this author thinks that it is possible to assume that there will be qualitative differences when comparing the two.

In the case of conventional narratives by humans, ordinarily the generation process and production process were purely fluid, and objectification was extremely difficult. Within literary studies, there is a field called generative theory research. It studies the works of authors, including drafts and unfinished manuscripts, not just completed manuscripts, and intentionally sets the generation process of works (a fluid process) as the subject of research (*Nihon kindai bungaku kan*, 2015). For example, writers such as Marcel Proust and Kenji Miyazawa, mentioned above, left behind huge volumes of unfinished manuscripts. Depending on the generative theory research method, their narrative content generation process can be objectified and fixed to a certain extent. However, this research was retrospectively verified after the fact. Furthermore, as seen from the examples of André Gide (1869-1951) (1926) and Thomas Mann (1875-1955) (1949), sometimes records of the generation process of certain works exist in the form of content inside diaries and personal notes, which are themselves works of literature. These demonstrate one way to essentially objectify and fix the generation process. This shows that it is not necessarily the case that with conventional narratives, the generation process itself cannot be objectified and fixed. However, it was seen as requiring work using intentional effort.

What Are Narrative Generation Phenomena?

By contrast, in the case of narrative generation systems using machines, the production process, in other words, the fluid process, can be even more explicitly fixed. It is reasonable to say that it is made into a type of literary product. The reason is probably that it is required of the special characteristics of the narrative generation system media. Conventional media did not have the ability to think autonomously and create some sort of product on their own. By contrast, the computer, which is a medium for narrative generation systems, has the ability to execute information duplication and conversion in incremental steps. This leads to at least simulation of thought and problem solving. Without a doubt, simulation, mimesis and mimicry form the core of human intellectual abilities. Furthermore, it has the ability to express information processing processes via symbols and images as needed. If generating narrative, computer systems as machines can make various parts of thought processes, namely narrative generation processes, manifest, exteriorized and fixed on a case by case basis. Needless to say, humans do not possess this kind of ability. They are not good at the work of describing and expressing thought processes one by one. In many cases, humans do not know what they are doing at any given time; therefore, they cannot express it in words. One also cannot say that computers are necessarily conscious of what they are doing at any given time, but at least they can express and establish (fix) the process with symbols and images. In a sense, it does not go beyond simply whether there is or isn't output. So, in a machine narrative generation system, the possibility of a state called "fluidity equals work of art (fixation)" arises. Rather than becoming a work where only the narrative content that is ultimately expressed is fixed, it can become a work where the narrative content of every instant in the fluid state up to it is fixed. In long-form novels such as those by Kafka, *The Trial* (Kafka, 2009a) and *The Castle* (Kafka, 2009b), in particular, there are examples where the narrative content in a fluid state exceeds the intent of the authors themselves, and ends up as the final content. From an even more macroscopic perspective, the history of *kabuki* itself seems like one fluid narrative generation process. Essentially, a *kabuki* play does not exist as a fixed work or a type of range, it continuously changes and flows at all times via the actual performances by actors. Its history itself is one fluid process, and each work is thought of as a fixed instant within the process. A narrative that is in a fluid state in the generation process exceeds simply abstract conjecture. It becomes possible to perceive it as a phenomenon that is a limitless fixed state that exists inside the flow or a flow that is a grouping of countless fixed states. The range of the thing called the work of art is expanded in Figure 6. In the above

Figure 6. Expanding the range of works within a machine narrative generation system



situation, fluidity is connected as is to fixation, but conversely it is possible to hypothesize another status, that of narrative content that is fixed, in other words, a work in the conventional sense, that incorporates fluid elements as is. However, up to now it has not been possible to describe specifically what kind of work would be created from narrative content in this state.

As described above, in machine narrative generation systems, the fluidity of the generation process is connected to fixation, and the fixation of the narrative content is connected to the fluidity. The relationship between fluidity and fixation is complicated and mutualized. The characteristic of the above description is that it exceeds a simple association with the machine narrative generation system, and expands to be thought of as a characteristic of “narrative as information content.” Here, narrative as information content means software that is provided with narrative functionality in some sort of sense, a type of computer game or educational application system, etc., not necessarily having embedded automatic narrative generation functionality, and the content that is made using the software. Even if the range of the discussion here regarding narrative generation systems is expanded to that extent, it is applicable in its broad outlines. However, narrative generation systems that have cognitive faculties in themselves do not just diversify fluid narrative generation; they give them characteristics of scattering. In terms of having the potential to realize fixation extremely freely, they are essentially different from simple narrative-type applications.

Note that the concept of fluidity and fixation, a concept that this author has considered over several years, concerns the creation of narrative works by narrative generation systems—or narrative generation systems that are substantially involved in some fashion. This author has published a

What Are Narrative Generation Phenomena?

number of articles, but his research was still in the stage of undifferentiated thought processes (fluid state). The publications are in the form of essays and miscellaneous writings rather than articles. They principally appear in the proceedings of the “Literature and Cognition/Computer Research Subcommittee” of the Japanese Cognitive Science Society, which has been discontinued, where the author has published his prototype thought process. To develop a narrative generation system, the primary requirement is to have a fluid generation mechanism to dynamically and flexibly generate narratives. However, at the same time, the author has a strong sense that its properties are not dynamic or fluid, and that the narrative as a work that does not change and is static, namely fixated, is paramount. As a result, there is intentionality or fixation toward the work itself. In other words, both feelings coexist in tension with the same intensity. However, this is probably a problem that relates to the design and development phases of the narrative generation system. In the initial phase of development, importance will be placed on fluid generation capability, but one can be sure that gradually the quality of the created narrative content will come to be identified as a problem (however, this quality will probably be very closely related to quantity). However, this author created the concept of fluid and fixated, not with this kind of differentiation, but as a more undifferentiated and vague concept. The basic problem consciousness is outlined in Chapter 4 (Ogata, 2010) of this author’s previous work (Ogata & Kanai, 2010), which considers the idea of fluid and fixated.

Let’s pause and summarize. The narrative generation process for conventional narratives is positioned as fluid, but for a narrative linked with a narrative generation system or narrative as information content, within a fluid narrative generation process, fixed narrative generation, namely it becomes possible for the narrative generation process itself to be transformed into narrative content. Meanwhile, fluid narrative content cross-fertilized by the narrative generation process with the narrative content itself that was positioned as conventional and fixated, in other words, narrative generation processing of narrative content becomes possible. In this way, the correspondence relationship between the narrative generation process and narrative content and fluidity and fixation becomes complicated. The relationship is no longer perceived simplistically as the narrative generation system being fluid and the narrative content being fixated. In the first meaning, fluidity does not go from a state of fluidity to fixation, emphatically, it is the fluid state that becomes fixated. This means that like fixation, it changes. Specifically, it expands the possibilities for fixation, and is connected to changes and expansion of the concepts of possibilities of works, and the works themselves.

It widens the possibilities for narratives in a fluid state to become settled and fixated as works in some sort of form. Even now, so-called art is created with a certain consciousness of creating works, but “works” in this type of form are comprehended as something different from ordinary narratives or literature. Or, in the literary world as well, those kinds of attempts with the awareness of the creative process and fluid state exist, but importance is placed on them, not for the works themselves, but for the creative process, and they are regarded as nonconforming, experimental literature. However, it does not necessarily mean that the type or quality of works in the narrative generation system or works that have narratives as information content are nonconforming or experimental. Assuming this quality, narrative content and literary works, which can be said to be rather conservative, on the premise of such a property would also be possible. What this author seeks is a world like the “Ivy-entangled library,” a narrative that is the object of quiet reading, or to be watching a play in a sepia-lit theatre, and snoozing (that type of narrative), that type of thing.

The essential problems that must be considered here are, in line with consideration as described above concerning narratives as narrative generation systems, are practical problems such as the kind of works this author is trying to create, and problems that exceed an objective and academic point of view of narrative analysis and from a subjective viewpoint to a practice of “creating a work (narrative content),” the problem of how to make use of the concept of fluid and fixated. Regarding whether to call the act of creating a narrative generation system development or building, if it is calling the act of creating a narrative in the essential meaning, is it a creation problem or a problem of focusing on the connection between development and creation, or it is a problem involving the cross-link between development and creation? Or, it is a problem of literary and artistic (plus *geinō*) narratives in relation to narrative generation systems as technology? Regarding the analysis and prediction of what format in future in reality narratives as narrative generation systems and narratives as information content will take, this author is not pursuing purely objective academic issues. This author is considering how he himself creates works and narrative content from a practical problem consciousness.

Intertextual Narrative Generation Strategies

As above, narrative fluidity and fixation, according to this author’s activities, is one basic concept relating to the qualities of narratives as narrative generation systems and furthermore narratives as information content. Refining it as a

What Are Narrative Generation Phenomena?

methodology for narrative generation is an important future topic. This is a problem involving the essential qualities of narrative generation systems, and at the same time, a topic of work creation methods. The first is a concept that is called an intertextual narrative generation strategy (Tsuchihashi & Ogata, 2009).

Let's consider spaces and environments where multiple narrative generation systems and narrative contents exist. Here, as described above, the narrative generation system does not have to be a machine author. Rather than machines, at very least at the present time the large majority are human authors, namely, human narrative generation systems. Let's think about the case of humans. Human authors are at the same time creators and receivers. This creative ability is sparked by diachronic and synchronic reception of, other groups of works, in other words, reception of groups of works that are exteriorized and objectified inside spaces and environments. Pure generation without reception is probably not possible. Even in the most extreme case, at least one is receiving content that one has created oneself. In that sense, the narrative generation systems inside a certain space or environment are all intertextual subjects. In other words, information is ingested from the various narrative contents inside them, and they create new narrative content themselves. Figuratively speaking, the narrative generation system, as a narrative generation and reception entity, ingests the narrative content inside the space and environment as nutrients and nutritious elements, and by activities that have some sort of value outputs some sort of thing. It can be said that it ejects new narrative content to the outside. This ejected narrative content becomes nutrients and nutritious elements to the narrative generation systems inside the space and environment (including oneself). The large framework based on this cycle applies also to machine narrative generation systems. The machine reception form is different from the human reception form.

The intertextual narrative generation strategy in this sense is a method at a concrete level for analysis, development, creation, distribution, and deployment of narrative content by the narrative generation system. It is because encounters and chance encounters between various types of narrative content and narration generation systems in the real world are converted to a tangible form. Narrative generation systems as intertextual mechanisms are made from, in summary, narrative generation mechanisms (in a narrow sense) memorized as narrative content or fragments in storage warehouses, and from the reception and awareness mechanisms that store the narrative content and fragments in the storage warehouse, in other words, perform the memorization. These fragments are the components of the narrative content

at various levels. They are the concrete content of the “visible elements” and “invisible elements” described in this chapter, and are equivalent to the analysis results of information analysis of narrative content, which are discussed in the following section in this chapter. This narrative generation system as an intertextual mechanism is a narrative generation-reception social environment made of a gathering of multiple spaces. A narrative production-consumption mechanism such as GIS makes up one large system in which multiple intertextual narrative generation systems are systematically placed inside it. In a narrative space that is an even flatter social environment, by the process of a huge number of intertextual narrative generation systems repeatedly entering and exiting and interrelating, narratives take shape with social images, such as hearsay, gossip, rumors, and urban legends. The narratives that are created nowadays on social networks are probably of that type. It will be possible to set up this level of narrative as an image as a stage, as a narrative space with this kind of social environment liquidity of the creation process such as described above and the liquidity of the narrative on a different level from the liquidity that narrative content itself contains. Also, within the narrative generation system as a machine, if a narrative generation system that is a fluid element is embedded inside narrative content that was originally supposed to be fixed, the form will become even more complicated. Picture opening a book and reading a story, and then one of the characters in it becomes a narrative generation system, and a new narrative that was not written in the book is created.

Human-Machine Symbiotic Narratives

Finally, the author would like to mention his vision of human-machine symbiotic systems. It is possible to think of this as having already been partly materialized in reality. Machines have been made intelligent, and not only have narrative generation systems, but also linguistic systems such as the conversation system, translation system, the sentence generation system, and musical composition systems, and film generation systems, etc., already been completely melded into the social environment of the narrative. It is a vision of a social situation in which humans and machines are in symbiosis. Specifically, it is a vision of a social situation where AI newspaper reporters, composers, filmmakers, novelists, scenario writers, producers, game developers, *manga* creators, etc., coexist and cross-fertilize as equal or different beings. Nishida (2013) outlines a proposal for structuring an artificial narrative world in one

What Are Narrative Generation Phenomena?

corner of the real world and setting up a type of artificial environment in order for a variety of software to function collaboratively inside it in order to capture the reality of first-generation AI. This is a “special zone” idea. However, for the narrative generation system, this type of narrative world environment should not necessarily be envisioned as just experimental or preliminary.

On one hand, this vision is relevant to academic subjects such as situation theory or the sociological narrative environment taken as a whole, but on the other hand, it has individual practical issues. Namely, it relates to the problem system concerning how to materialize this author’s own narrative generation system and furthermore narrative content as a narrative generation system within real social spaces. In other words, aiming to realize a narrative environment in the age of human-machine symbiosis is at one with the issue of how to develop this author’s own narrative. At that time, in order to create innumerable existing narratives and other content, the fact that the subject will become one tiny unit must be accepted as reality. Seen from a very realistic viewpoint, this author’s narrative generation system, within this type of social space, as a single extremely small narrative generation entity, is embedded inside countless other narrative generation systems and content generation system layers.

However, at the same time, the problem of how to recover the independence of the narrative by means of or through the agency of the narrative generation system must be brought forward. This way one can manage to regress to a classical problem. Even in human-centered narrative environments in the final analysis, this kind of problem is always considered. Therefore, literary criticism addressing the problems of “What is an excellent work of art?” and “What is an original work of art?” continues to be discussed tirelessly. Even in a social environment in which innumerable human and artificial narrative devices are embedded, that type of problem will be probably come to be recounted. However, at that time, conversely, the thought of human loss of subjectivity, and the thought of aiming for the disappearance of that subjectivity by machines, must surface as a positive subject. Simply put, new narrative environments and narrative designs, emerging from and exiting from human-centered relativization of literary perspective and narrative perspective, appear beautiful at first glance, but in order not to fall into an empty outcome, an attempt to deliberately tear the concept apart into two directly-opposed directions will be required as an essential prerequisite.

FROM NARRATIVE DECONSTRUCTION TO SYNTHESIS: VISIBLE NARRATIVES AND INVISIBLE NARRATIVES

Visible Elements and Invisible Elements in Narrative: Toward a System of Narrative Structural Elements

The first half of this chapter described the general research framework relating to the author's narrative generation system. Similarly, the second half described a number of problems relating to narrative and literature creation and social development, as a prerequisite for research and development on a narrative generation system that is structured based on this framework. However, it did not describe investigations relating to problems relating to the information itself that is narrative, and its elements, which are prerequisites for narrative generation system development. Here, this chapter describes the structural elements in various levels of the narrative as approached from the viewpoint of the narrative generation system, information deconstruction, in a manner of speaking. Viewed in terms of the functions of the narrative in the multiple narrative structures model described in the above, the aim is to layer the narrative generation-reception process at the individual level with the narrative production-consumption process at the group, organizational, and social level, and fit both of them in with the information deconstruction outlined here. Building on this, the second half of the chapter outlines a method for organically synthesizing narrative information deconstruction, with the narrative generation system as the agent. In other words, this chapter handles as its subject the deconstruction and synthesis of narrative as information.

As described earlier, expanded literary theory is a methodological framework for narrative as a system and its generation, through the cross-fertilization of narrative analysis and narrative interpretation, such as narrative theory and literary theory in the humanities, with narrative analysis and narrative generation methods assisted by informatics such as AI and cognitive science. Many parts overlap with the information narrative theory proposed in this book, but these ideas and analyses are generalized in a practical way within the narrative generation system by means of the author's research structure. In the following narrative information analysis, based on the three great process categories of narrative content, narrative discourse, and narrative expression in the fields of narrative theory and literary theory will each be segmented even further. These will support the narrative generation system modules which are under development. The boxes for the generation process shown

What Are Narrative Generation Phenomena?

in Figure 1 are even more narrowly segmented than the above-mentioned process divisions, and next they will be conversely synthesized, and eventually narrative content will be generated. The author's previous book with Akihito Kanai and Yoji Kawamura (Ogata, Kawamura, & Kanai, 2018) is related to this discussion. In contrast to Kanai's (2018a, 2018b, 2018c, 2018d, 2018e) study of narratives, which places the reception process in the center (including generation), in this book the author models narratives with the generation process in the center (including reception). Similarly, the author considers that Kawamura's (2019) central theme is a narrative consumption process. However, the three share the intention of aiming for narrative generation and production. From the author's viewpoint, it is perceived as a kind of control strategy for the reception process and the generation process. The control of generation or the awareness of strategy of how to generate narrative is strengthened by incorporating the narrative reception process.

When seen from the generation side, the sender generates the narrative by embodying the semantic and conceptual elements in the narrative into surface and superficial elements in a step by step process. Conversely, as seen from the reception side, the semantic and conceptual elements are gradually grasped by the receiver via perception of the surface and superficial elements. Narrative information deconstruction is equivalent to minutely differentiating between the semantic and conceptual elements in narrative from the surface and superficial elements. The latter is called a "visible element," and by contrast the former is called an "invisible element." (Here, "visible" and "invisible" are probably figurative expressions. It is more accurate to call them "can be perceived" and "cannot be perceived." The fundamental idea of prioritizing vision is in itself probably problematic.

However, narrative is not necessarily clearly divided in two. As shown in Figures 7 and 8, the narrative generation process and reception process are contrasting in their treatment of "visible elements" and "invisible elements." In other words, during the generation process, the generator (sender) creates "visible elements" from "invisible elements," and conversely during the reception process the receiver (one who receives) creates "invisible elements" from "visible elements."

If the "visible elements" in narrative are further divided into an extreme fashion, they are divided into physical elements or formal elements, semantic elements, or content elements. The former are the physical entities that structure the narrative. They are concepts that are closely attached to the media for expressing certain genres of narrative. For example, in the case of the novel, it is a form of expression made of groups of characters and illustrations

Figure 7. Narratives seen from the generation process and narratives seen from the reception process

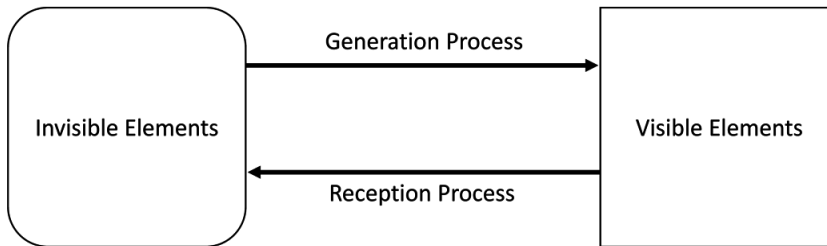
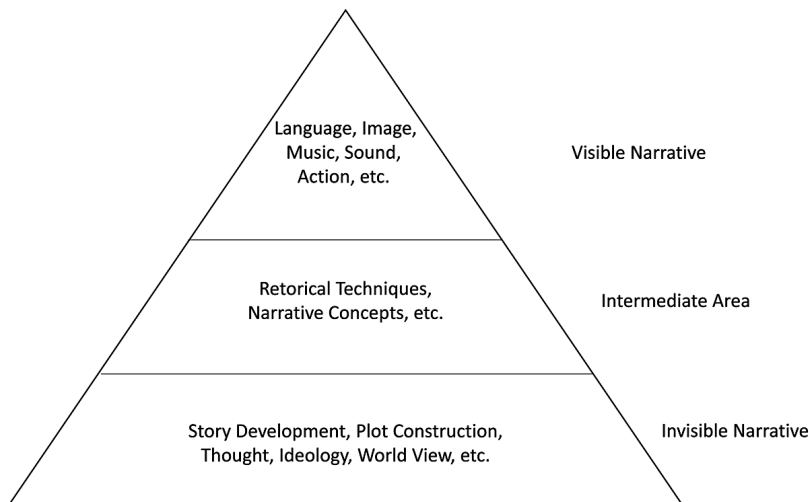


Figure 8. Visible narrative and invisible narrative



(forms of expression) printed in the medium of a book (medium as device) using some sort of method. In the case of the film, it is a form of expression whereby photographed images and layered and expressed sound and music (here, auditory elements are also figuratively called “visible elements”) and characters, etc. are placed in the medium called film device (as a device). When one speaks of an element that is visible to the eye, it is only purely in the physical sense, but considering another semantic or content element, the subject will be segmented further. Or, a concept that limits “visible elements” to elements such as those described above is also conceivable.

However, here the “visible element-invisible element” definitions are not so strictly defined, and are thought of as problems at the level of fairly conceptual meaning. In this case, different from a form of expression that is a purely

What Are Narrative Generation Phenomena?

visible element, the stage of being “a more visible element” is manifested next as a semantic and content problem. This is some sort of structural element in the narrative that is described via the physical materials of the form of expression. For example, in novels or films, this would include characters, locations, things, etc., or if it was a film image, it would be expressed by the lighting and brilliance of the screen. In the novel, this includes the various explanations, descriptions, and opinions regarding the structural elements of the narrative. These are elements that can be read directly from the physical elements that are expressed. On the other hand, the question of whether the meaning or role of a character in a certain narrative, such as a “protagonist,” or a character that does not have that type of direct meaning or role, is a “visible element” or an “invisible element” is a nuanced one. If a character is clearly named and described as the protagonist in the text of a novel, and if this is not a lie, the character is a “visible element,” but if this is not the case, in other words if the reader who is the receiver judges that the character is the protagonist by inferring this through their reading, the character does not fall under the definition of “visible element.” Now, we will dive into the boundary areas between “visible elements” and “invisible elements.”

Here, there are various steps in narrative, in terms of semantics and content. The meaning attached through direct description and expression is the comparatively primitive and simple part of a narrative. The more complex part is the semantic information that the receiver constructs via deduction. One example of the former is figuring out what meaning a certain character takes on in inside a narrative. For example, if the modeling of a certain character related to their human qualities, physically (such as outward appearance), psychologically (such as character), and socially (such as family structure and social status) is explicitly described or illustrated, the character is a “visible element.” By contrast, if it can be said that a certain character’s meaning or significance inside the story, for example, significance as a hero, that as a secondary character, etc. are semantic elements that the reader gradually profoundly realizes as their reading of the narrative progresses in accordance with the unfolding of the story, the character should be classified as an “invisible element.” However, in any case, these are related to the individual elements inside the narrative.

On the other hand, there are more complex semantic elements that come from groupings of individual elements in the narrative, and not from individual elements. Representative of this is the story (narrative content). The story in a narrative means “what happened” inside a certain narrative, organized from multiple phenomena (events) and placed in chronological order. The

individual events themselves are generally complex structures, which are different from the characters described above. Even so, they are unitary elements inside the narrative. In many cases, characters and locations and objects etc. are shaped as “visible elements” that are complexly organized and structured. However, the assignment of meaning to individual events is performed in relation to other events. Here, story means that the coupling based on the assignment of meaning to the events together is made complex and expanded to the entire narrative. This does not necessarily mean that all events are coupled simplistically. Ordinarily, in the awareness of the receiver, the structure from individually coupled events becomes a single unit. Then, the semantic coupling is generated at this unitary level. Ultimately, the entire story as an image is coupled, thus hierarchical processing is performed. In this sense, story is one semantic unit associated with the narrative event chain, but it is the largest in scale and the most important.

However, in many cases, among the couplings of multiple events, relationships and ellipses exist that require guessing, or changes to temporal order. In many cases, receivers do not simply try to line up the events that appear directly in the narrative, they devise various cognitive devices and attempt to interpret the story. For example, they fill in information between events where there seems to have been ellipsis, and if it seems that time order is put together in a messy way they sort it into a plausible order. In some cases, information is lacking during an event that appears in the beginning of the narrative, and to make it plausible, it is filled in by means of an event that appears in the latter part. The most extreme receiver behavior occurs when events that absolutely do not appear in the narrative itself are added in based on the naturalness of unfolding events or perception of necessity. In this case, reception comes close to generation. Using events as “visible elements” as clues, the receiver consciously creates a convincing story that has its own consistency by means of various mobilizations of this kind of reception technique (which is sometimes reversed and becomes a generation technique). Even if many of the events that make up stories that are created this way are “visible elements,” as a whole they are equivalent to “invisible elements” in narratives.

Table 1 classifies the “visible elements” and “invisible elements” in narrative, which were explained above, in different genres of narrative—language, image, and theatre. The table is preliminary to the construction of a more generalized and systematic component system. Note that in this table, “event” signifies a single event that shows the movement (physical and spiritual) of a character or other subject. “Episode” and “scene” are complex

What Are Narrative Generation Phenomena?

events in which multiple events are gathered together and organized into a single semantic unity. In particular, a scene is a complex unit of events defined by their existence in the same location and serial time. It is possible for these events, episodes, and scenes to be structured hierarchically. Furthermore, “plot” is different from “story.” It means the abstract structure of the final expressed narrative itself. For example, even if a narrative does not proceed according to temporal order, unlike the story, the plot does not generate reshuffling of temporal relationships. Therefore, plot is closer to a “visible element” than story, in a comparative sense. E. M. Forster (1879-1970, 1956) stated that while a story is a coupling of events in a simple temporal relationship, plot is a coupling of cause and effect. From this explanation, an impression is received at first glance that plot is more abstract, in other words, near to an invisible element, but if one takes note of the parts that are coupled relationships between units of an event grouping, plot is the structure of the event grouping that has occurred as is. By contrast, a story is that as-is structure with the addition of temporal alteration. Naturally, in some cases, both are the same.

What we understand from the above table is that each of the narrative genres has different components as well as common components. Generally, the surface forms of expression of each genre are different from one another, but the more abstract components within that narrative that emerge by way of these are shared. For example, in many cases, no matter the genre, the forms of the characters (characters on stage) that emerge through the respective forms of expression exist in common. However, here again there are the “visible element” and “invisible element” aspects. The form of a character that is actually described and expressed is a “visible element,” but the information that the character is the protagonist is an “invisible element.” Also, (deducing) a character that is really an “invisible element” in the sense that he doesn’t really appear in the scene might become necessary in order for the receiver to understand the story. Even if a narrative genre and its method of expression are diverse and varied, the reason it is bundled in and called a “narrative” is the portion that has these kind of common elements.

On the other hand, the “visible element” parts are more strongly associated with components that differ according to genre. From this, it can be inferred that the major standards for narrative genre classifications consist of the “visible elements.” However, naturally, for example, even if it is a theatrical work performed in a theatre space called the Kabukiza (the *Kabuki* Theatre in Tokyo), as can be understood from the existence of works that would never be considered *kabuki* (in the sense of quality, for example), one

Table 1. Narrative deconstruction and two types of elements: “Visible elements” and “invisible elements”

Narrative Genre	Visible Elements	Invisible Elements
<p>Novel: Language narrative deconstruction and structuring element system</p>	<p>[Forms of expression] Characters, individual words, clauses, sentences, symbols, and illustrations [Things that are expressed in language] Individual semantic elements: characters, locations, things, time, etc. Composite elements that carry meaning: events, episodes, scenes, etc.</p>	<p>[Things that are not expressed in language] Individual semantic elements: characters, locations, things, time, etc. Composite elements that carry meaning: events, episodes, scenes, etc. [The abstract structure of the narrative] Plot: narrative development structure Story: structure of multiple events in chronological order [Thoughts] Main subjects, lessons, and thoughts [Rhetorical techniques] Judged from all of the above elements</p>
<p>Film (other than theatres that are spaces for artistic appreciation): Film narrative deconstruction and structuring element system</p>	<p>[Forms of expression] Image: video images and still images Sound: audio, music, and sound effects Text/symbols Camera work (image) Film continuity: cutting and editing shots [Things that are expressed in image] Individual semantic elements: characters, locations, things, time, etc. Composite elements that carry meaning: events, episodes scenes, etc.</p>	<p>[Things that are not expressed in language] Individual semantic elements: characters, locations, things, time, etc. Composite elements that carry meaning: events, episodes, scenes, etc. [The abstract structure of the narrative] Plot: narrative development structure Story: structure of multiple events in chronological order [Thoughts] Main subjects, lessons, and thoughts [Rhetorical techniques] Judge from all of the above elements</p>
<p>Kabuki (in the theatre situation): Theatre narrative deconstruction and structuring element system</p>	<p>[Physical existence] Humans: actors, musicians, singers, narrators, audience, persons related to the theatre, etc. Theatre: stage, audiences, seating area, etc. Stage equipment Actors: physical movement and gestures, voices (lines), etc. Audience: voices and reactions, etc. Music: instruments and voices, etc. Audio: sound effects, noise, etc. [Things that are expressed in plays] Individual semantic elements: characters, locations, things, time, etc. Composite elements that carry meaning: events, episodes, scenes, etc.</p>	<p>[Things that are not expressed in plays] Individual semantic elements: characters, locations, things, time, etc. Composite elements that carry meaning: events, episodes, scenes, etc. [The abstract structure of the narrative] Plot: narrative development structure Story: structure of multiple events in chronological order Actors' acting forms or patterns (“<i>katas</i>”) [Thoughts] Main subject, lessons, and thoughts [Rhetorical techniques] Judge from all of the above elements</p>

What Are Narrative Generation Phenomena?

cannot narrowly determine that only that performance space is the genre classification standard for narratives. Related to that point, are the rhetorical techniques that are listed at the end of description of each of the genres in the above classification system. The vague items that are judged from all “visible elements” and “invisible elements” suggest the existence of the unique individual narrative generation strategy for each narrative genre or each author being equal to rhetoric. If there is a differentiating characteristic or difference in tone of rhetoric for each narrative genre over and above the rhetoric of each author, this element is also considered to contribute to the classification of narrative genres.

As described previously, the problem of components in narrative requires consideration of the processes of generation and reception. For example, in the case of a story, the receiver, through direct perception of characters, locations, things, events, etc. as “visible elements,” arrives at an indirect perception of the story structure as an “invisible element.” Conversely, with generation, in many cases, the sender (author) first describes the story structure as an “invisible element,” then embodies it through the “visible elements” of characters, locations, things, and events. Each of the processes, from “visible element” to “invisible element,” and from “invisible element” to “visible element,” and their mutuality, is one of the innate factors that produce the dynamic character of narrative generation.

The Narrative Generation System Synthesizer

A major goal of the author’s expanded literary theory or post-narratology is to link narrative information deconstruction to the structure of narrative functional systems. In the language of this chapter, one could say that this expanded literary theory is information narrative theory for post-narratology. Naturally, this is information narrative theory as seen from the author’s point of view. Superimposing it further over the multiple narrative structure model, it will probably extend to ranges that exceed individual models, and extend to group, organizational, and social models. At that time, in other words, when the analysis work called information deconstruction is systematized, a dynamic, synthetic system, and not simply a static system will be attempted. The narrative generation system is the device for this. Therefore, building the narrative generation system is the first large goal of the stepping stones toward expanded literary theory. This systematization is given a dynamic character from the narrative information deconstruction

demonstrated previously, as a system that operates itself, thereby capturing characteristics that exceed the analytical and static character of conventional narrative theory and literary theories. The Integrated Narrative Generation System (INGS), the development of which the author has made substantial progress thus far and aims to complete in the near future (provisionally), will be introduced in Chapter 1 in the sequel (Ogata, in press). Here, in advance of that, narrative synthesis through the narrative generation system will be addressed conceptually from a general viewpoint.

Table 2 is a magnified view of Table 1 in Ogata (2011c, 2011d). Expanded literary theory positions the narrative generation system in the context of literary theories and narrative theory, and not simply in the realm of informatics such as AI or cognitive science. One could say that the research and development of a narrative generation system as an engineering technology has only just begun. However, when viewing it in terms of the long history of scholarship and its wide range, one can see that the achievements and accumulations of narrative theory and literary theories have given birth to, or are in a continuous birth process, of new informatics-related research fields and also new literary and narrative theory research fields from the encounter with the circumstances of the development of informatics such as AI and cognitive science. Ogata (2011) and the first half of Ogata (2016) first provided a systematic treatment, including a detailed literature survey, from the viewpoint of the narrative generation system and expanded literary theory, in terms of the narrative generation system and related AI/cognitive science and literary theories/narrative theory, including those listed in this table.

From long ago, in every region there existed fragmented literary theories and narrative theories. For example, the author frequently quotes Aristotle's (384 BC-332 BC) *Poetics* (1997). In its comprehensiveness and its precision, Aristotle has constructed an extremely avant-garde and productive theory, even compared to modern literary theory. Similarly, Vladimir Propp (1895-1970) (1968)'s folktale study is separated in time over 2,000 years from Aristotle, but it blatantly conceals the influence of Aristotle, and is an extremely comprehensive and excellent literary and narrative theory. (The literary and narrative subjects do not adjust themselves to evolutionary theory. For example, let's consider Japanese theatre. If one compares the representative theatrical works from the Meiji era onward with the representative *ningyō jōruri* and *kabuki* works of the Edo era, one cannot at all say that the former is more advanced and developed than the latter. Also, one doesn't have the heart to think about how many modern Japanese literary works exist that are superior to *Genji Monogatari* by Murasaki Shikibu (c. 970~978-c. 1019)

Table 2. Narrative generation systems as expanded literary theory

Narrative Generation Systems	Artificial Intelligence and Cognitive Science	Literary Theories and Narratology
	<p>Machine Translation (around 1950-; Nitta, 2012) Logic Theorist (Newell & Simon, 1956) Generative Grammar (Chomsky, 1957) GPS [General Problem Solver] (Newell, Shaw, & Simon, 1959)</p>	<p>Aristotle, <i>Poetics</i> (4th century BC) (1997) 劉勰 [Liu Xie], 『文心雕龍 [The Literary Mind and the Carving of Dragons]』 (5th century; Xie, 1982) 夏目漱石 [Natsume Soseki], 『文学論 [The Criticism of Literature]』 (1907; Natsume, 2007) V. Shklovsky, <i>Theory of Prose</i> (1925; Shklovsky, 1990) V. Propp, <i>Morphology of the Folk Tale</i> (1928; Propp, 1968)</p>
<p>Klein et al. (1974)</p>	<p>Perceptron (1962; Minsky & Papert, 1988) ELIZA (1966; Weizenbaum, 1976) Semantic Network (Quillian, 1968) Case Grammar (Fillmore, 1968) Conceptual Dependency (1969; Schank, 1975)</p> <p>STRIPS (Fikes & Nilsson, 1971) Production System (1972; Ishida, 1996) SHRDLU (Winograd, 1971) Frame (Minsky, 1975) Story Grammar (Rumelhart, 1975) Script (Schank & Abelson, 1977) Discourse studies (around 1970-; Lee, Abe, & Kaneko, 1994)</p>	<p>M. Bakhtin, <i>Problems of Dostoevsky's Poetics</i> (1963; Bakhtin, 1984) C. Levi-Strauss, <i>Mythologiques I</i> (1964) 外山滋比古 [Toyama Shigeihiko], 『近代読者論 [Modern Reader Theory]』 (1964) 吉本隆明 [Yoshimoto Takaaki], 『言語にとって美とは何か [What is Beauty for Language?]』 (1965) A. J. Greimas, <i>Structural Semantics</i> (1966) R. Barthes, <i>Introduction à L'Analyse Structurale des Récits</i> (1968; Barthes, 1975)</p> <p>J. Kristeva, <i>Le Texte du Roman</i> (1970) H. R. Jauss, <i>Literaturgeschichte als Provokation</i> (1970) G. Genette, <i>Discours du Récit, Essai de méthode Figure III</i> (1972) W. Iser, <i>Der Akt des Lesens</i> (1976) U. Eco, <i>Lector in Fabula</i> (1979)</p>

continues on following page

Table 2. Continued

Narrative Generation Systems	Artificial Intelligence and Cognitive Science	Literary Theories and Narratology
<p>TALE-SPIN (Meehan, 1980)</p>	<p>Parallel Distributed Processing (Rumelhart, McClelland, & PDP Research Group, 1986) The Society of Mind (Minsky, 1988) Case-based Reasoning (Riesbeck & Schank, 1989)</p>	<p>柄谷行人 [Karatani Kōjin], 『日本近代文学の起源 [Origins of Modern Japanese Literature]』 (1980; Karatani, 1993) G. Prince, <i>Narratology: The Form and Functioning of Narrative</i> (1982) W. C. Booth, <i>The Rhetoric of Fiction</i> (1983)</p>
<p>Daydreamer (Mueller, 1990) Aesop's Fables Style (Okada & Endo, 1992) MINSTREL (Turner, 1994)</p>	<p>Ontology (around 1990-; Mizoguchi, 2005) Statistical Natural Language Processing (around 1990-; Manning & Schuetz, 1999) WordNet (around 1990-; Fellbaum, 2011) Data Mining (around 1990-; Han & Kamber, 2006) Human Creativity Aid (around 1990-; Hori, 2007)</p>	<p>A. Compagnon, <i>Le Démon de la Théorie: Littérature et Sens Commun</i> (1998)</p>
<p>MEXICA (Pérez & Sharples, 2001) BRUTUS (Bringsjord & Ferrucci, 2000) Magerko (2006) Montfort (2007) Peinado (2008) Swartjes (2010) THESPIAN (Marsella, 2010)</p>	<p>Deep Learning (around 2010-; Asakawa, 2015a)</p>	<p>藤井貞和 [Fujii Sadakazu], 『物語理論講義 [Lectures on the Theory of Narrative]』 (2004) 渡辺直己 [Watanabe Naomi], 『日本小説技術史 [A History of Technologies of Japanese novels]』 (2012) 蓮實重彦 [Hasumi Shigehiko], 『『ボヴァリー夫人』論 [A Theory of "Madam Bovary"]』 (2014) 渡辺直己 [Watanabe Naomi], 『日本批評全体 [A Collection of Japanese Critiques]』 (2017)</p>

What Are Narrative Generation Phenomena?

(1993, 1994, 1995, 1996, 1997) of 1,000 years ago. In literary and narrative theories, research and criticism that handle this kind of subject, the simplistic assumption, such as in natural history, that newness of the age signifies freshness and excellence of theories and methods is nonsense. However, there is certainly a feeling that on the other hand perhaps only the time units are different. Namely, one tends to think that literature and narrative do not fit into the concept of evolution because people's feelings of enjoyment of narratives with certain structures and content do not change easily, but if one considers narrative from a little bit longer time scale, it does not mean that there won't come a time when the types of narrative that we currently understand well and receive with enjoyment will be completely incomprehensible. On the other hand, along with the innovations in narrative and literature, there are innovations in the human spirit. In that sense, the possibility also exists that the concept of the evolution of narrative and literature will adapt to them. One could say that types of narrative theory research such as by Aristotle and Propp came to be practiced systematically in the various systems of the twentieth century literary theory, but an impartial and extensive reading of the history of literary criticism in various countries reveals without a doubt many achievements that should be introduced. That is pretty difficult, and no matter what it becomes a little close to home, but within the works of Takaaki Yoshimoto (1924-2012), which are wrapped in emotional adoration or hatred rather than academic criticism or research and whose true value cannot be evaluated calmly, for example there is a linguistic theory by Yoshimoto (1965), where literary works are analyzed from the standpoint of coexistence and comparison of indication-expression and self-expression, and can be regarded as a literary control model from the standpoint of the expanded literary theory and the narrative generation system. The idea is similar to the theoretical framework of a literary criticism by Sōseki Natsume (1867-1916) (2007), a literature researcher with a deep and intense theoretical bent—a form expressing literary content administered by the relationship with the emotional elements evoked by intellectual elements or material as elements. This can also be given an alternate meaning from the standpoint of a type of control mechanism for the narrative generation system.

As shown in Table 2, development started on the narrative generation system itself in the latter half of the twentieth century. Its major technical infrastructures are AI and cognitive science. In these fields, from an early stage, a variety of researchers demonstrated an interest in applying the relationship between human problem-solving behavior proposed by Allen Newell (1927-1992) and Herbert Simon (1916-2001) (Newell & Simon,

1972) and narrative textual analysis to narratives (story or narrative), and the fruits of this research were also used in the narrative generation system. In particular, the series of studies, primarily between the 1960s and 1980s, relating to language, knowledge and meaning (Marvin Minsky's (1927-2016) frame knowledge representation (1975), the semantic networks of Quillian (1968), Roger Schank's (1946-) script theory, and Rumelhart's story schema (1975), etc. are well known) continue to be cross-fertilized with later ontology and statistical natural language processing research fields.

What is interesting about this table is that the period from the 1960s to the 1980s was similarly a period of concentrated production of highly influential research in the world of literary and narrative theories as well. Propp's *Morphology of the Folk Tale*, which had originally been published in Russia in the 1920s, became widely appreciated starting from the 1960s. (After that, narrative analysis continued to be influenced by Propp's work, such as the works of Alan Dundes (1934-2005) (1965) and Algirdas Julien Greimas (1917-1992) (1966). The interest in narrative in AI and cognitive science is actually in conjunction with the so-called liberal arts research trends. Ideologically, this succession of research studies on the narrative seems to have been supported by the desire to regard the social system that is representative of an apparently extremely strong nation state as a type of artificial narrative, and to attempt to find a breakthrough in its dismantling and reorganization. However, from the latter half of the 1980s to the beginning of the 1990s, the world's great narratives disintegrated in short order, and a time has come when the scattered small narratives that certain types of people were pursuing can be obtained without much effort. Narrative theory type literary research proliferated during the intellectual currents of that era, and it seems that the interest among cognitive science and AI researchers in fairly suggestive narrative gradually waned, and for better or for worse, if the researcher side had had the imagination to form and obtain extremely and unsurprisingly conversely large narratives, by no means would the unstable and dangerous age, when narrative theory for large narratives is required, be finished. It probably would have been appropriate to have noticed from the very beginning that it was carrying on and also maintaining the same strength as before. However, it goes without saying that new narrative theory that can be applied to new situations must be different from conventional narrative theory.

The importance of the narrative generation system in relation to the subject of narrative information deconstruction is the feature of the device that cross-links the static analysis results with the dynamic generation function.

What Are Narrative Generation Phenomena?

However, insights about what components are necessary for the narrative generation system, and at the same time, insights relating to how the mutual coupling and how the overall behavior is structured are needed. The aspect also exists that through design and systems tasks aimed at overall behavior, insights concerning individual components themselves and the mutual relationships among them will gradually become clear. This chapter promotes the discussion of the synthesis procedure after the narrative information deconstruction has been performed, but the actual synthesis work will not necessarily be that linear, there will be some coming and going between them. Study of a narrative generation system based on the information deconstruction work on a comparatively vulgar narrative gives new insights to another narrative analysis, which in turn further refines the information deconstruction. Furthermore, the processing procedures (mutually related) of a narrative generation system as dynamic synthesis of narrative components are also not necessarily fixed. In other words, it would be thought that the procedure for making “invisible elements” into tangible “visible elements” would be the most general, but conversely it is possible to envision a procedure for catalyzing “visible elements” (for example, a single word as the final form of expression) and forming “invisible elements.” In this way, in terms of narrative generation, it has become clear that diverse possibilities for methods of synthesis of narrative components are opening up. (In Chapter 2 of the sequel (Ogata, in press), this author discusses the idea of *kabuki* as an entire genre that does not converge into a one-dimensional generation-reception, production-consumption process, but is open to a multilayered and multidimensional synthesis, as an infrastructure.) This further suggests that the narrative generation system will be more than an academic method, and that it will be instrumental in the creation of literary and artistic narratives. The diverse synthetic capabilities of the narrative generation system can open up the possibilities of experimental creation of various types of narrative content and literary and artistic trials using them.

From “Invisible Narrative” to “Visible Narrative:” Synthesis of a Narrative Deconstruction as Narrative Generation Process

As mentioned in the last part of the previous section, the narrative generation process has various possibilities—diverse possibilities supported by diversity and multidimensionality—but the basis supporting this is the receiver picking

up the “invisible elements” from the “visible elements” in the narrative in the narrative reception process, and, by contrast, the sender creating the “invisible elements” from the “visible elements.” If the reception process is one type of information deconstruction process, the generation process is equivalent to an information synthesis process.

For example, in the novel generation process, supported by the author’s cherished subjects and basic ideas, the story, which is structured from multiple events in chronological order, and the plot, which is a development structure of the story that should be finally expressed, is structured. Furthermore, it is formed from the characters, location, things, time, etc. that have been given meaning and are basic elements in the narrative, and the composite elements, which have been given meaning and are based on the basic elements, such as events, episodes, and scenes. When the author approaches the end, the concrete work of writing sentences, and the phrases, terms and characters, the linguistic forms of expression, becomes atomic and indivisible. Then the entirety is controlled by each author’s unique rhetorical strategies and characteristic techniques.

So, what happens in the film and *kabuki* generation process? The first half of these processes is basically the same as the stages in the creation of the novel before the text is written. However, as described later, in many cases this is done by the division of labor of multiple actual bearers. In film, the planned structural content, such as the constructed story and plot, are not ultimately written as sentences, they are structured as composites of “visible elements” through forms of expression such as images (video and still images), voice, music, audio (sound effects), text, symbols, etc., and the images are edited by camera work and shot segmentation. Sometimes the story or plot of a novel is created as text, such as a production note, that is different from the final work, but in film normally text at this level is established as a self-contained text called a scenario or a treatment or script. A film script can be made for reception independent of the film itself, and is not infrequently published as a book having the same appearance as a novel. (However, it is not recognized as a literary work in the way a play would be in the case of live theatre. Plays have a strong character of spoken lines in theatre. They were not originally written in the first place with being read in mind. By contrast, in film forms of expression other than the lines affect the final work to a great extent, its character as film script or play probably weakens its character as literature even more. Writings do exist that treat film scenarios in an equivalent way to the plays in the theatre (Rawson, 1949), but if one looks at many of the actual film scenarios that are authored by film directors and have been published as

What Are Narrative Generation Phenomena?

books, the phenomenon (impression) of their low level of independence as scenario plays could originate from the lack of history of the theatre narrative compared to that of the theatre.)

The subject is *kabuki*, but here one imagines so-called *gidayū kyōgen*, which is based on *ningyō jōruri* scripts. In their case, the scripts had already been established as well-crafted text. In *ningyō jōruri*, the narrator (“*tayū*”) sits and reads aloud from the script (“*yukahon*”). Or he narrates the words that are written in the book. The writing of the script is fully completed beforehand. Inside the script, the story, plot, and individual elements that carry meaning, such as characters, locations, and time, and composite elements that carry meaning, such as events, episodes, and scenes take shape, and the entirety is supported by the playwright’s unique thought, subject matter and training, etc. In the case of *kabuki*, plays that were based upon scripts written for *ningyō jōruri* were further transformed, revised and produced in a way that was preferred for *kabuki*, a theatre performed by human actors. In many cases, a performance script is organized into a document. The famous *kabuki* plays *Kanadehon Chūshingura* and *Yoshitsune Senbon Zakura* were originally written for *ningyō jōruri*, but they were soon adapted for *kabuki*. We can read the script in both the *ningyō jōruri* and *kabuki* versions. (*Kanadehon Chūshingura* is found in *Kanadehon Chūshingura* (2002) (*ningyō-jōruri*) and Atsumi (1928) (*kabuki*). *Yoshitsune Senbon Zakura* is found in *Yoshitsune Senbon Zakura* (1991) (*ningyō jōruri*) and Kawatake, Hamamura, and Atsumi (1926) (*kabuki*).) Then, based on the script, the generation of the “visible element” of the space that is called the theatre and its stage equipment takes place. Then the entire picture of “visible elements” of *kabuki* is structured by means of the composite of acting (physical movement) by actors, their voices (lines), the narrative by the players, singers and narrators, musical instruments (such as drums and *shamisen*), singing and narrative by voices (such as *Tokiwazu*, *Kiyomoto*, and *Nagauta*), *jōruri* narrative and *shamisen*, and also sound effects.

The above description is summarized in Figure 9. The stories and plots themselves are “invisible elements,” but they are made into “visible elements” of the narrative through the components that structure them concretely, such as characters, things, locations, stages, time (even eras), and the events that are made up of individual incidents, and collects of events that make up episodes and scenes. Based on these, the tangible expressive actions using language, images, and physicality, etc. are fixed into the final narrative content. Then, the receiver receives the content in the various ways that are prescribed according to genre. Sometimes the reaction of the receiver

affects the generation process immediately, and narrative content is created by the interaction, but this diagram is simplified to show an unlinear flow from generation to reception. Also, in reality as a result of expressive action reversions, such as revisions to the story itself, are possible, but they have been omitted from the diagram. The format of the diagram simplifies the broad outlines as much as possible.

Figure 9 can be called an extremely abstracted description of the narrative generation process or a model that comes close to a personal narrative generation process. In reality, specific parts are expanded and divided according to the genre of the narrative. Figure 10 shows the socialized production-reception process for actual diverse narrative genres, in other words, so that the narrative production-consumption process can be incorporated. In general, the initial conceptual process corresponds to the story and plot generation process shown in Figure 10, and in the same way, the expression process corresponds to the expression process. Then, in the former, in other words, the part that shows the reception process in the simplified model of the narrative generation-reception process as one bundle, in this simplified narrative production-consumption model, it is divided and expanded into the distribution process and the reception process. Also, the conceptual process and expression process are combined into the production process, and the distribution process and reception process are combined into the consumption process.

Figure 9. Simplified diagram of the narrative generation-reception process

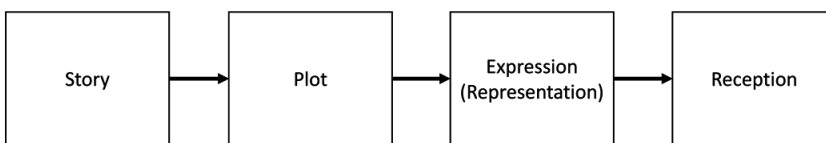
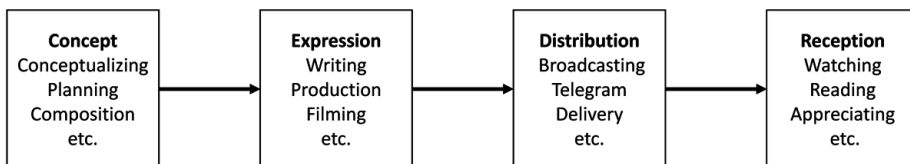


Figure 10. Simplified diagram of the social production-consumption process of the narrative



What Are Narrative Generation Phenomena?

They are not depicted in Figure 10, but the critical thing here is that multiple entities exist to support the specific parts of the distribution process in the production process and consumption process. In the case of the novel, whose narrative production-consumption processes are comparatively simple and small in scale, the conceptual process mainly signifies conceptualizing and planning the story and plot, and in the expression process that follows, writing is performed by the novelist. In traditional folktales, narrative content is conveyed directly as is from the sender's (narrator's) mouth to the receiver (the listener), who is right in front of the sender, but this form of narrative transmission is rather rare. In the case of a novel, there is usually a social organization, made up of publishing company and a printing company, standing in between the author and the reader. Specifically, through the efforts of individual entities such as editors and bookbinding technicians, etc., who belong within the social organization, reception media is created as a book made of paper, which is expressed primarily of words as their form of expression. It makes its way through the publisher's social distribution channels (during which time people having a variety of roles are involved) and arrives at a bookstore. A certain person picks it up and takes it to the cash register, where the right of ownership is transferred to the person through the payment of money. The action of reading will probably begin at some later point in time. (The process might end with the novel unread.) Sometimes, the distribution format differs, such as if the book is not sold through a store but is purchased through custom order, but in any case the distribution process is realized through the intervention of multiple social organizations and multiple people who serve in them. There is no change to the fact that mediation of the reception process of the receiver called the reader takes place.

For film, on the other hand, during the conceptual process, planning for a producer and distribution, market research by the entertainment organization, drafting the concept of the film, casting and staffing are carried out, and then the screenwriter performs surveys (scenario hunting) and writes the film script. Continuing on from there, the expression process is structured by means of the tangible creative work focused on images, and the filming based on the script, the creation of the music and the film editing etc. are performed through collaborative work by diverse people such as film directors, assistant directors, actors, technicians, equipment handlers, music directors, etc. The work is completed and sent to the next stage in the distribution process. In the distribution process, through the collaborative work of the producer, advertisement planners and creators, sales people, distribution and entertainment organizations, etc., various tasks are carried out, such as theatre contracts, sales, advertising, marketing,

spin-offs into other media, etc. Deployment, commencing with the audience viewing the film in the cinema, and the consumption process, is actualized. Even with film, many of the functions involved in narrative production and distribution are divided up and carried out by specific organizations and specific people, who make up the organizations.

A particularly noteworthy phenomenon in this example is that the distribution process is amplified and complicated. In other words, the parts that link production (generation) and consumption (reception) are complicated. One aspect of amplification and complication is that they function as social authorization and filters for the narrative content. For example, individuals can write novels freely as a hobby, but they cannot easily insert them into the social distribution and development processes and obtain economic value from them. If being a novelist is an occupation, this means that a person who is a novelist has received approval by means of the assessment device called the distribution process. When we look at folktales, which are the prototypical form of narrative, the distribution process is extremely easy. They are aggregated in Figure 10. (However, when we look into the social context of a folktale, a relationship exists that cannot be severed from systems such as practices and customs of that particular society. This kind of simplification is nothing more than a type of idealization, in the author's opinion. For direct narratives such as folktales, the endorsement within the society, rather than appearing in the middle of the distribution process, has already appeared in the unconscious structure and content of the narrative. If one is unaware of the point that narratives that appear at first glance to be literary are attacked on both sides by this type of unconscious filter and social filter, and in fact the literary and artistic value cannot help but be minimal (what remains is the phenomenological value only.) The goal of the author is to organize the production-consumption processes of many conventional narrative genres according to the diagram in Figure 10, and by abstracting that substance into functions, complete the general diagram in Figure 9, and link the narrative generation system and its practical use with use in creation (Ogata, 1999a).

CONCLUSION

First, in **NARRATIVES AND HUMANS/SOCIETIES/MACHINES: TOWARD A SYMBIOSIS OF HUMANS/MACHINES FROM MULTIPLE NARRATIVE STRUCTURE**, the author introduced an idea that deals with narrative phenomena as the integration between the individual level (narrative

generation and reception system) and social level (narrative production and consumption system). This idea is called the “multiple narrative structures model.” The multiple narrative structures model is an important narrative generation concept in this study and has relationships with many parts of the study. It is described in detail in Chapter 4. In the section, **Narratives and Humans/Societies/Machines: Toward a Symbiosis of Humans/Machines from Multiple Narrative Structures**, this chapter also described the image of a “human-machine symbiosis system” that includes narrators and receivers as AI.

Next, in **FROM NARRATIVE DECONSTRUCTION TO SYNTHESIS: VISIBLE NARRATIVES AND INVISIBLE NARRATIVES**, the author presented the pair concept of “visible narratives” and “invisible narratives.” Based on the concepts of “visible narratives” and “invisible narratives,” the author analyzed the narrative elements to consider methods for synthesizing the analyzed elements. This idea of the analysis and synthesis of various narrative elements will be systematized in the Integrated Narrative Generation System (INGS) that the author has been developing. Important concepts in this chapter, such as story, narrative discourse, narrative representation, expanded literary theory, fluidity and fixation, *Geinō* Information System (GIS), content, narrative genres, and intertextuality, are described in detail the following chapters.

In addition, the author described the plural thought of narratives. The author does not think that invisible narratives or invisible elements are more important than visible narratives or visible elements, and the former dominates and controls for latter. In narratives, both the deep elements and surface elements are important and efficient. The multiple narrative structures model also supports the multiplicity and plurality of narratives. Based on the opinion, the author showed aspects of the plurality of narrative. Moreover, this section also considered the method of synthesizing the analyzed narrative components and elements. The idea of the analysis of synthesis of narrative components and elements will be systematized and implemented concretely in the section regarding INGS in Chapter 1 of the sequel (Ogata, in press).

ACKNOWLEDGMENT

This chapter’s research was supported by JSPS KAKENHI Grant Number 18K18509, Kayamori Foundation of Information Science Advancement Research Grant, The Telecommunication Advancement Foundation Research Grant, and AOI TYO Holdings Inc.

REFERENCES

- Akutagawa, R. (1977). Yabu no naka [In a grove]. In *Akutagawa Ryūnosuke zenshū*, 5 [Complete works of Akutagawa Ryūnosuke, Vol. 5] (pp. 102–115). Tokyo, Japan: Iwanami Shoten. (Original work published 1922)
- Amino, T., Kawamura, Y., & Ogata, T. (2002). Hierarchical generation of *geinō*-idol stories—Toward *geinō* information system and narrative, marketing. In *Proceedings of the 17th Congress of International Association of Empirical Aesthetics* (pp. 549-552). Rome, Italy: University of Rome Tre.
- Aristotle. (1997). *Poetics* (M. Heath, Trans.). London, UK: Penguin Classics.
- Asakawa, S. (2015). *Deep learning, big data, kikai gakushū mataha sono shinrigaku* [Deep learning, big data, machine learning, or the psychology]. Tokyo, Japan: Shin'yōsha.
- Atsumi, S. (Ed.). (1928). Kanadehon chūshingura [The treasury of loyal retainers]. In *Nihon gikyoku zensyū*, 15, Akōgishi hen (pp. 581-752). Tokyo, Japan: Shun'yōdō.
- Bakhtin, M. (1984). *Problems of Dostoevsky's poetics* (C. Emerson, Trans.). University of Minnesota Press. (Original work published 1963) doi:10.5749/j.ctt22727z1
- Bal, M. (2004a). *Narrative theory: Critical concepts in literary and cultural studies* (Vol. 1). New York: Routledge.
- Bal, M. (2004b). *Narrative theory: Critical concepts in literary and cultural studies* (Vol. 2). New York: Routledge.
- Bal, M. (2004c). *Narrative theory: Critical concepts in literary and cultural studies* (Vol. 3). New York: Routledge.
- Bal, M. (2004d). *Narrative theory: Critical concepts in literary and cultural studies* (Vol. 4). New York: Routledge.
- Barthes, R. (1975). An introduction to the structural analysis of narrative (L. Duisit, Trans.). *New Literary History*, 6(2), 237-272. (Original work published 1968)
- Bartlett, F. C. (1923). *Psychology and primitive culture*. London, UK: Cambridge University Press.

What Are Narrative Generation Phenomena?

Booth, W. C. (1983). *The rhetoric of fiction*. Chicago, IL: University of Chicago Press. doi:10.7208/chicago/9780226065595.001.0001

Bringsjord, S., & Ferrucci, D. A. (2000). *Artificial intelligence and literary creativity: Inside the mind of BRUTUS, a storytelling machine*. Washington, DC: Lawrence Erlbaum.

Chomsky, N. (1957). *Syntactic Structures*. Berlin, Germany: Mouton & Co. (Walter de Gruyter).

Compagnon, A. (1998). *Le démon de la théorie. littérature et sens commun*. Paris: Seuil.

Dundes, A. (1965). *The study of folklore*. Prentice Hall.

Eco, U. (1979). *Lector in fabula*. Milano, Italy: Bompian.

Fellbaum, C. (2006). WordNet(s). In K. Brown (Ed.), *Encyclopedia of language and linguistics* (2nd ed.; Vol. 13, pp. 665–670). Oxford, UK: Elsevier. doi:10.1016/B0-08-044854-2/00946-9

Fikes, R., & Nilsson, N. (1971). STRIPS: A new approach to the application of theorem proving to problem solving. *Artificial Intelligence*, 2(3-4), 189–208. doi:10.1016/0004-3702(71)90010-5

Fillmore, C. J. (1968). The case for case. In E. Bach & R. T. Harms (Eds.), *Universals in linguistic theory* (pp. 1–88). New York: Holt, Rinehart, and Winston.

Forster, E. M. (1956). *Aspects of the novel*. Boston, MA: Mariner Books. (Original work published 1927)

Fujii, S. (2004). *Monogatari riron kōgi* [Lectures on the theory of narrative]. Tokyo, Japan: Tokyo Daigaku Shuppankai.

Genette, G. (1972). *Discours du récit, Essai de méthode, Figures III*. Paris: Seuil.

Genji Monogatari. (1993). In *Shin nihon koten bungaku taike*, 19 [New Japanese classic literature collection, 19]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1994). In *Shin nihon koten bungaku taike*, 20 [New Japanese classic literature collection, 20]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

- Genji Monogatari. (1995). In *Shin nihon koten bungaku taikai, 21* [New Japanese classic literature collection, 21]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)
- Genji Monogatari. (1996). In *Shin nihon koten bungaku taikai, 22* [New Japanese classic literature collection, 22]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)
- Genji Monogatari. (1997). In *Shin nihon koten bungaku taikai, 23* [New Japanese classic literature collection, 23]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)
- Gide, A. (1926). *Les faux-monnayeurs*. Paris: Gallimard.
- Greimas, A. J. (1966). *Sémantique structurale: Recherché de method*. Paris: Larousse.
- Han, J., & Kamber, M. (2011). *Data mining: Concepts and techniques* (3rd ed.). Morgan Kaufmann.
- Hasumi, S. (2014). *“Bovary fujin” ron* [A theory of “Madam Bovary”]. Tokyo, Japan: Chikuma Shobō.
- Hori, K. (2007). *Sōzō katsudō shien system no riron to ōyō* [Theories and applications of creative activity aid]. Tokyo, Japan: Ohmsha.
- Iser, W. (1976). *Der akt des lesens*. Munchen, Germany: Wilhelm Fink Verlag.
- Ishida, R. (1996). *Production system no hatten* [Development of production system]. Tokyo, Japan: Asakura Shoten.
- Jauss, H. R. (1970). *Literaturgeschichte als provokation*. Frankfurt am Main, Germany: Suhrkamp Verlag.
- Kafka, F. (2009a). *The trial* (M. Michell, Trans.). Oxford, UK: Oxford University Press. (Original work published 1925)
- Kafka, F. (2009b). *The castle* (A. Bell, Trans.). Oxford, UK: Oxford University Press. (Original work published 1926)
- Kanadehon Chūshingura. (2002). [The Treasury of Loyal Retainers]. In *Nihon koten bungaku zenshū, 77* [Japanese classic literature collection, 77] (pp. 11–161). Tokyo, Japan: Shōgakukan.

Kanai, A. (2018a). Narrative simulation for film rhetoric composition with or without story and nostalgia effects. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 148–161). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch003

Kanai, A. (2018b). Setsudan gihō to monogatari [Cutting techniques and narratives]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 63–76). Tokyo, Japan: Hakutō Shobō.

Kanai, A. (2018c). Eizō ninchi hōryaku no kanōsei [The possibilities of image cognition methods]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 127–140). Tokyo, Japan: Hakutō Shobō.

Kanai, A. (2018d). Eizō kara story wo ninchisuru koto/shinai koto: Ninchiteki reality no hassei yōin [Recognizing/unrecognizing stories from the film: The generating factor of cognitive realities]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 141–153). Tokyo, Japan: Hakutō Shobō.

Kanai, A. (2018e). Documentary to nostalgia seisei [Documentaries and nostalgia generation]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 289–302). Tokyo, Japan: Hakutō Shobō.

Karatani, K. (1993). *Origins of modern Japanese literature*. Durham, UK: Duke University Press. (Original work published 1980) doi:10.1215/9780822378440

Kawamura, Y. (2019). An attempt of the commercial film production support system based on the image rhetoric of commercial film. In T. Ogata & T. Akimoto (Eds.), *Post-narratology through computational and cognitive approaches* (pp. 292–317). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-7979-3.ch007

Kawamura, Y., & Ogata, T. (1999). *An introduction to the information system of performing arts. SIG Technical Reports (99-CH-41)*. Tokyo, Japan: Information Processing Society of Japan.

- Kawamura, Y., & Ogata, T. (2000a). A conceptual framework on *geinō* organization model for artificial *geinō* performers with lives. In *Proceedings the 5th International Symposium on Artificial Life and Robotics* (pp. 793-796). Oita, Japan: Oita University.
- Kawamura, Y., & Ogata, T. (2000b). *Geinō soshiki model to image senryaku* [A *geinō* organization model and the image strategies]. *Journal of Osaka University of Economics and Law*, 23(2), 130–164.
- Kawatake, S., Hamamura, & Atsumi, S. (Eds.). (1926). Yoshitsune senbonzakura [Yoshitsune and the thousand cherry trees]. In *Jidai kyōgen kessakusyū*, 1 (pp. 1-190). Tokyo, Japan: Shun'yōdō.
- Klein, S., Aeschlimann, J. F., Appelbaum, M. A., Balsiger, D. F., Curtis, E. J., Foster, M., ... Salsieder, D. F. (1974). *Modeling Propp and Levi-Strauss in a meta-symbolic simulation system. Computer Sciences Technical Report*. Madison, WI: University of Wisconsin.
- Kristeva, J. (1970). *Le texte du roman: Approche sémiologique d'une structure discursive transformationnelle*. Berlin, Germany: Walter de Gruyter.
- Kurosawa, A. (Director), & Ito, M. (Producer) (1950). *Rashōmon* (Motion picture). Tokyo, Japan: Tōhō.
- Lee, K., Abe, J., & Kaneko, Y. (1994). *Ningen no gengo jōhō syori—Gengo rikai no ninchi kagaku* [Human language information processing: Cognitive science of language comprehension]. Tokyo, Japan: Saiensu Sha.
- Lévi-Strauss, C. (1964). *Mythologiques 1: Le cru et le cuit*. Paris: PLON.
- Magerko, B. S. (2006). *Player modeling in the interactive drama architecture* (Doctoral dissertation). University of Michigan, Ann Arbor, MI.
- Mann, T. (1966). *Die entstehung des doktor faustus*. Frankfurt am Main, Germany: S. Fischer. (Original work published 1949)
- Manning, C., & Schuetze, H. (1999). *Foundations of statistical natural language processing*. Cambridge, MA: MIT Press.
- Marsella, S. (2010). *Thespian: A decision-theoretic framework for interactive narratives* (Doctoral dissertation). University of Southern California, Los Angeles, CA.
- Meehan, J. R. (1980). *The metanovel: Writing stories by computer*. New York: Garland Publishing.

What Are Narrative Generation Phenomena?

- Michimata, C., & Okada, T. (2012). *Ninchi shinkei kagaku* [Cognitive neuroscience]. Tokyo, Japan: Foundation for the Promotion of the Open University of Japan.
- Minsky, M. (1975). A framework for representing knowledge. In P. H. Winston (Ed.), *The psychology of computer vision*. New York: McGraw-Hill.
- Minsky, M. (1988). *The society of mind*. New York: Touchstone Books.
- Minsky, M., & Papert, S. (1988). *Perceptrons, Expanded edition*. Cambridge, MA: MIT Press.
- Mizoguchi, R. (2005). *Ontology kōgaku* [Ontology engineering]. Tokyo, Japan: Ohmsha.
- Montfort, N. (2007). *Generating narrative variation in interactive fiction* (Doctoral dissertation). University of Pennsylvania, Philadelphia, PA.
- Mueller, E. T. (1990). *Daydreaming in humans and machines*. Ablex.
- Natsume, S. (2007). *Bungaku ron (I, II)* [Literary theory (I, II)]. Iwanami Shoten. (Original work published 1907)
- Newell, A., Shaw, J. C., & Simon, H. A. (1959). Report on a general problem-solving program. In *Proceedings of the International Conference on Information Processing* (pp.256-264). Paris: International Conference on Information Processing.
- Newell, A., & Simon, H. A. (1956). The logic theory machine: A complex information processing system. *The Rand Corporation Report, P-868*, 25–63.
- Newell, A., & Simon, H. A. (1972). *Human problem solving*. Prentice Hall.
- Nihon kindai bungaku kan. (Ed.). (2015). *Kindai bungaku genkō/sōkō kenkyū jiten* [Modern literature manuscripts/drafts research dictionary]. Tokyo, Japan: Yagi Shoten.
- Nishida, T. (2013). What's AI? (2). *Jinkō Chinō Gakkaishi*, 28(2), 326–335.
- Nitta, Y. (2012). *Kikai hon'yaku no genri to katsuyōhō—Kotenteki kikai hon'yaku saihyōka no kokoromi* [Principles and use methods of machine translation]. Tokyo, Japan: Akashi Shoten.

Ogata, T. (1999a). Monogatari genshō no shosokumen ni kansuru note—Keisan kōzō monogatarihon no tame no kisoteki kōsatsu [A note regarding the aspects of narrative phenomena: A basic consideration for computational and structural narratology]. In T. Ogata (Ed.), *Japan Cognitive Science Society Technical Report 99-No.29 “Literature and Cognition/Computer 1: Cognitive Literature Theory and Literature Computational Theory* (pp. 163–166). Tokyo, Japan: Japanese Cognitive Science Society.

Ogata, T. (1999b). Monogatari genre taikai no mōrateki kentō [Comprehensive consideration of a narrative genre system]. In *Proceedings of the 2nd Workshop of Literature and Cognition, Computer in Tokyo '99 Winter* (pp. 85-91). Tokyo, Japan: Japanese Cognitive Science Society.

Ogata, T. (2000). Monogatari genre taikai no mōrateki kentō [Comprehensive consideration of a narrative genre system]. In N. Yoshimine, H. Akama, & A. Tokosumi (Eds.), *Japan Cognitive Science Society Technical Report 00-No.40 “Literature and Cognition/Computer 2: Expanding Literature”* (pp. 163–166). Tokyo, Japan: Japanese Cognitive Science Society.

Ogata, T. (2003a). Monogatari no tajūsei to kakuchō bungakuriron no gainen—System narratology ni mukete I [Narrative multiplicity and the concept of expanded literary theory: Toward a system narratology]. In M. Yoshida (Ed.), *Fukuzatsu-kei shakai riron no shin chihei* [New paradigm of complex social system theory] (pp. 127–181). Tokyo, Japan: Senshu Daigaku Shuppankyoku.

Ogata, T. (2003b). Kakuchō bungakuriron no kokoromi—System narratology ni mukete II [Attempts of expanded literary theory: Toward a system narratology]. In M. Yoshida (Ed.), *Fukuzatsu-kei shakai riron no shin chihei* [New paradigm of complex social system theory] (pp. 309–356). Tokyo, Japan: Senshu Daigaku Shuppankyoku.

Ogata, T. (2010). Shōsetsu—Ryūdō to kotei, sakuhin no hō he [Novels: Fluidity and fixation, toward works]. In T. Ogata & A. Kanai (Eds.), *Monogatarihon no jōhōgaku josetsu—Monogatari seisei no shisō to gijutsu wo megutte* [An introduction to informatics of narratology: Around the thoughts and technologies of narrative generation] (pp. 130–169). Tokyo, Japan: Gakubunsha.

Ogata, T. (2011). Narrative generation system as the practice of “informatics of narratology.”. *Journal of Japan Society for Fuzzy Theory and Intelligent Informatics*, 23(5), 14–24.

What Are Narrative Generation Phenomena?

Ogata, T. (2016). Computational and cognitive approaches to narratology from the perspective of narrative generation. In T. Ogata & T. Akimoto (Eds.), *Computational and cognitive approaches to narratology* (pp. 1-74). Hershey, PA: IGI Global.

Ogata, T. (2018a). Monogatari to ningen/shakai/kikai—Tajū monogatari kōzō kara ningen/kikai kyōsei-kei he [Narrative and human/society/machine: To human/machine co-existence system from multiple narrative structures]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation]. Tokyo, Japan: Hakutō Shobō.

Ogata, T. (2018b). Monogatari no bunkai kara gōsei he—Mieru monogatari to mienai monogatari [From the de-construction of a narrative to its synthesis: Visible narratives and invisible narratives]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation]. Tokyo, Japan: Hakutō Shobō.

Ogata, T. (in press). *Internal and external narrative generation based on post-narratology: Emerging research and opportunities*. Hershey, PA: IGI Global.

Ogata, T., & Kanai, A. (2010). *Monogatariiron no jōhōgaku josetsu—Monogatari seisei no shisō to gijutsu wo megutte* [An introduction to informatics of narratology: Around the thoughts and technologies of narrative generation]. Tokyo, Japan: Gakubunsha.

Ogata, T., & Kawamura, Y. (1997a). Historical process of contents creation and current strategy. In *Proceedings of the 7th International Forum on Technology Management* (pp. 400-405). Tokyo, Japan: Japan Society for Research Policy and Innovation Management.

Ogata, T., & Kawamura, Y. (1997b). Gendai minzoku kōgaku kōsō—Kenkyū keika to kongo no vision [A plan of contemporary folk engineering: The research process and future vision]. In *Proceedings of the 1997 Spring Conference of the Japanese Society of Management and Information* (pp. 161-164). Tokyo, Japan: Japanese Society of Management and Information.

Ogata, T., & Kawamura, Y. (1998). *Geinōjin no monogatari simulation no kihon shisō* [A basic theory of the narrative simulation of *geinōjins*]. *Bulletin of Nikkei Advertising Research Institute*, 180, 26–31.

Ogata, T., & Kawamura, Y. (1999). Monogatari sanshutsu soshikiron to *geinō* soshiki model [Narrative production organization and a *geinō* organization model]. In *Proceedings of the 1999 Meeting of the Academic Association of Organizational Science* (pp. 219-222). Tokyo, Japan: Academic Association of Organizational Science.

Ogata, T., Kawamura, Y., & Kanai, A. (2018). *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation]. Tokyo, Japan: Hakutō Shobō.

Ogata, T., & Morita, H. (2002). Kakucyō bungaku riron no kihon concept—Simulation toshite no monogatari [The basic concept of expanded literary theory: Narratives as simulation]. *Studies in Simulation and Gaming*, 12(1), 13-23.

Okada, N., & Endo, T. (1992). Story generation based on dynamics of the mind. *Computational Intelligence*, 8(1), 123–160. doi:10.1111/j.1467-8640.1992.tb00341.x

Peinado, F. (2008). *Un amazon para el desarrollo de aplicaciones de narracion automatica basado en componentes ontologicos reutilizables* (Doctoral dissertation). Facultad de Informatica, Universidad Complutense de Madrid, Spain.

Pérez y Pérez, R., & Sharples, M. (2001). MEXICA: A computer model of a cognitive account of creative writing. *Journal of Experimental & Theoretical Artificial Intelligence*, 13(2), 119–139. doi:10.1080/09528130010029820

Prince, G. (1982). *Narratology: The form and functioning of narrative*. Berlin, Germany: Mouton & Co. (Walter de Gruyter). doi:10.1515/9783110838626

Propp, V. Y. (1968). *Morphology of the folktale* (L. Scott, Trans.). Austin, TX: University of Texas Press. (Original work published 1928)

Quillian, M. (1968). Semantic memory. In M. Minsky (Ed.), *Semantic information processing* (pp. 227–270). Cambridge, MA: MIT Press.

Rawson, J. H. (1949). *Theory and technique of playwriting and screenwriting*. Boston, MA: Putnam.

Riesbeck, C. K., & Schank, R. C. (1989). *Inside case-based reasoning*. Lawrence Erlbaum.

What Are Narrative Generation Phenomena?

Rumelhart, D. E. (1975). Notes on a schema for stories. In D. G. Bobrow & A. Collins (Eds.), *Representation and understanding: Studies in cognitive science*. Academic Press. doi:10.1016/B978-0-12-108550-6.50013-6

Rumelhart, D. E., & McClelland, J. L. PDP Research Group. (1986). *Parallel distributed processing: Vol. 1. Explorations in the microstructure of cognition, Foundations*. Cambridge, MA: MIT Press.

Schank, R. C. (1975). *Conceptual information processing*. Amsterdam, The Netherlands: Elsevier.

Schank, R. C. (1990). *Tell me a story*. New York: Scribners.

Schank, R. C., & Abelson, R. P. (1977). *Scripts, plans, goals, and understanding: An inquiry into human knowledge structures*. Lawrence Erlbaum.

Shklovsky, V. (1990). *Theory of prose* (B. Sher, Trans.). Dalkey Archive Press. (Original work published 1925)

Sugawara Denju Tenarai Kagami. (1971). In *Nihon koten bungaku zenshū*, 45 [Japanese classic literature collection, 45]. Tokyo, Japan: Shōgakukan.

Swartjes, I. (2010). *Whose story is it anyway? How improve informs agency and authorship of emergent narrative* (Doctoral dissertation). University of Twente, Enschede, The Netherlands.

Tokosumi, A. (2007). *Kokoro no keisan riron, Kaitei-ban* [Computational theories of mind, Revised edition]. Tokyo, Japan: Tokyo Daigaku Shuppankai.

Toyama, S. (1964). *Kindai dokusha ron* [Modern reader theory]. Tokyo, Japan: Tarumi Shobō.

Tsubouchi Memorial Theatre Museum, Waseda University. (2009). Kaisai ni atatte [For opening]. In Zuroku Namiki Sōsuke ten—Jōruri no ōgon jidai [Picture record Namiki Sōsuke exhibition: The golden age of jōruri] (pp. 2-3). Tokyo, Japan: The Tsubouchi Memorial Theatre Museum, Waseda University.

Tsuchihashi, S., & Ogata, T. (2009). Toward the narrative generation by quotations and anagram. In *Proceedings of the 23rd Annual Conference of the Japanese Society for Artificial Intelligence* (1J1-OS2-2). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Turner, S. R. (1994). *The creative process: A computer model of storytelling and creativity*. Lawrence Erlbaum.

- Watanabe, N. (2012). *Nihon shōsetsu gijutsushi* [A history of technologies of Japanese novels]. Tokyo, Japan: Shinchōsha.
- Watanabe, N. (2017). *Nihon hihyō taizen* [Complete collection of Japanese critique]. Tokyo, Japan: Kawade Shobō Shinsha.
- Watanabe, T. (2004). *Kabuki—Kata no miryoku* [Kabuki: Charm of forms]. Tokyo, Japan: Kadokawa Shoten.
- Weizenbaum, J. (1976). *Computer power and human reason: From judgment to calculation*. London, UK: W. H. Freeman and Company.
- Winograd, T. (1971). Procedures as a representation for data in a computer program for understanding natural language. *MIT AI Technical Report*, 235.
- Xie, L. (1982). The literary mind and the carving of dragons (V.Y. Shih, Trans.). Hong Kong: The Chinese University Press. (Original work published c. 5th century)
- Yoshimoto, T. (1965). *Gengo ni totte bi toha nanika* [What is beauty for language?]. Tokyo, Japan: Keisō Shobō.
- Yoshitsune Senbon Zakura. (1991). [Yoshitsune and the Thousand Cherry Trees]. In *Takeda Izumo, Namiki Sōsuke jōruri syū* (*Shin nihon koten bungaku taikei*, 93) [Takeda Izumo, Namiki Sōsuke jōruri collection (New Japanese classic literature collection, 93)] (pp. 393-536). Tokyo, Japan: Iwanami Shoten.

Chapter 2

Areas of Narratives or Narrative Genres

ABSTRACT

This chapter presents a tentative and large categorized system of narrative genres (i.e., a “narrative genre system”). It is related to the division of the objects or materials of research and analysis in the synthetic narrative generation study based on computational methods. Although, throughout the book, the author consciously uses Japanese narratives that include both universal narrative characteristics and local or cultural features, this narrative genre system is also constructed using Japanese narrative genres as concrete materials. As an overview, the narrative genre system includes five narrative categories: the narrative genre as a work in the narrow sense, the narrative genre as a work in the broad sense, the narrative genre as social and emergent phenomena, the narrative genres invading the real phenomena, the narrative genres as human physiological and psychological phenomena. In each explanation, after the corresponding narrative, genre category is defined and explained, and a concrete genre under the large genre category is treated for discussing the characteristics.

INTRODUCTION

This chapter presents a tentative and large categorized system of narrative genres—that is, a “narrative genre system.” It is related to the division of the objects or materials of research and analysis in the synthetic narrative generation study based on computational methods. Throughout the book, the author consciously uses Japanese narratives which include both universal

DOI: 10.4018/978-1-5225-9693-6.ch002

Copyright © 2020, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

narrative characteristics and local or cultural features; however, this narrative genre system was also constructed using Japanese narrative genres as basic concrete materials.

First, in **BACKGROUND**, the author describes “studies on narrative genres” and “histories of Japanese literature, *geinō*, and folklore” as necessary prior knowledge for reading this book. The author thinks of the latter as the history of Japanese literature in a broad sense. Regarding the latter, this section extracts many genres in the narratives in Japanese literature and the related narratives in cultural areas to make a list of narrative genres.

As shown in the discussion in this chapter, narratives do not necessarily appear only in literary areas. Narratives also appear in other *geinōs* (performance arts), entertainments, social events, and so on. Therefore, in this chapter, the author has studied extensively a wide area of narratives, including Japanese literature in a broad sense and history. The first main discussion in this chapter is developed in **A NARRATIVE GENRE SYSTEM AND ITS SUBCATEGORIES**. Narrative genres are classified into five categories, and all of the categories are discussed in the following sections.

There are five categories that correspond to the following subtitles:

- **Narrative Genre (1):** NARRATIVES AS WORKS IN THE NARROW SENSE OR WORKS IN THE NARROW SENSE IN WHICH NARRATIVES APPEAR (OR NARRATIVES ARE INCLUDED).
- **Narrative Genre (2):** NARRATIVES AS WORKS IN THE BROAD SENSE OR WORKS IN THE BROAD SENSE IN WHICH NARRATIVES APPEAR (OR NARRATIVES ARE INCLUDED).
- **Narrative Genre (3):** NARRATIVES AS SOCIAL AND EMERGENT PHENOMENA OR SOCIAL AND EMERGENT PHENOMENA IN WHICH NARRATIVES APPEAR (OR NARRATIVES ARE INCLUDED).
- **Narrative Genre (4):** NARRATIVES THAT INVADE REAL PHENOMENA OR REAL PHENOMENA IN WHICH NARRATIVES APPEAR (OR NARRATIVES ARE INCLUDED).
- **Narrative Genre (5):** NARRATIVES AS HUMAN PHYSIOLOGICAL AND PSYCHOLOGICAL NATURAL PHENOMENA OR HUMAN PHYSIOLOGICAL AND PSYCHOLOGICAL NATURAL PHENOMENA IN WHICH NARRATIVES APPEAR (OR NARRATIVES ARE INCLUDED).

As an overview, the narrative genre system includes the following five narrative categories: (1) The narrative genre as a work in the narrow sense; (2) The narrative genre as a work in the broad sense; (3) The narrative genre as social and emergent phenomena; (4) The narrative genre invading real phenomena; and (5) The narrative genre as human physiological and psychological phenomena. After the corresponding narrative genre category is defined and explained, a concrete genre under the broad genre category is addressed to discuss the characteristics. **Appendix** shows the current version of the narrative genre system.

BACKGROUND

This section deals with tendencies regarding narrative genres and the histories of Japanese literature and *geinō* for Japanese literary history in a broad sense.

Narrative Genre Theories from Dynamical Viewpoints

Narrative is a broad category that crosses existing genre categories. Thus, it includes diverse genres and, further, each category includes various subcategories and concrete narrative works. The proposed narrative genre system is an attempt to systematize all narrative genres. It proposes a comprehensive genre classification system, which is the first endeavor. The system divides narrative genres into theoretical genre classification and pragmatic genre classification. The proposed genre classification in this chapter is included in the theoretical classification. On the other hand, the pragmatic genre classification includes genre categorizations in libraries and bookshops according to pragmatic necessity. The possibility of theoretical genre classification categorizes by crossing existing genre narratives at the point of narrative forms and structures. The folktale theory by Vladimir Propp (1895-1970) (1968) analyzed and modeled a narrative genre based on narrative forms and structures. However, actually or accurately, Propp's approach was not only a genre categorization of folktales. It was an approach from another viewpoint of deciding formal and structural conditions for a specific narrative genre, namely the Russian folktale genre, in an age.

As stated above, narrative genre categorization does not have a determined general method. This fact is common for many other large narrative genres, such as the novel, movies, drama, and advertisements. Dynamic thoughts regarding

narrative genres by Tzvetan Todorov (1939-2017) and other researches and authors, was produced based on the above fact. Todorov (1978) describes that he did not necessarily aim to achieve his literary genre classification. In contrast, he considered that literary genres could not always be determined. In particular, he discusses that a power motive, particularly for contemporary novels, is orienting the ceaseless deviation from a specific genre and one of the identity as the internal desire for deviation by referring Maurice Blanchot (1907-2003) and other authors. The discussion especially focuses on the problems of the origin, generation, and transformation of literary genres. This is based on his opinion that when discussing literary genres, considering the dynamic mechanisms surrounding genres themselves is more important than determining narrative genres. More concretely, he also refers to the existence of dynamic rhetorical mechanisms for the categorization of discursal genres.

A central focus of Todorov's discussion is the "novel," which was originally a meta-genre that incorporated several other existing discursal genres. Therefore, the discussion regarding such dynamic characteristics of genre categorization is closely related to the essential characterization of the genre of the novel. However, or at the same time, in particular, contemporary novels can exist that are suitable for such thought on dynamic genre. Moreover, do such genre-comprehending characteristics of novels not lapse into a fixed, static characterization by being satisfied by novels themselves? Does the genre truly hold the vitality for producing new novels, new literary, and narrative genres?

The narrative genre system of the author also has a dynamic viewpoint of narrative genres in the core component of the idea. On the other hand, the author has recognized that an important task is to synchronically categorize and describe previously existing genres through the historical processes of literature, narratives, folktales, other narratives, and currently exiting narrative genres (and works). Moreover, the author aims to enable the deepening, transformation, and generation of narrative genres. In particular, the proposed narrative genre system, constructed based on both the above-mentioned synchronic and diachronic directions, is regarded as a foundation for executing narrative dynamisms.

Japanese Literature, *Geinō*, and Folklore: Japanese Literature in the Broad Sense

In *Nihon Bungakushi Josetsu* [An Introduction to a History of Japanese Literature] (Katō, 1997), Shūichi Katō (1919-2008) expands Japanese literature into all fields of written content. In particular, he intentionally expands the history of Japanese literature from areas centering on poems, narratives, and novels to broader areas. Concretely, he deals with many philosophical writings and the area of *geinō*-like literature including *nō*, *kyōgen*, and *kabuki*. As the author describes in Chapter 4 of this book, Katō's direction provides very large indications of the narrative genre system of the author from this paper's viewpoint, which emphasizes philosophical considerations of narrative generation. However, in this section, the author introduces a history of Japanese literature by Furuhashi (2010) as writing that is related to the genre's perspective and narratives. Although Katō and Furuhashi also discuss the *geinō* area, such as *nō*, *ningyō jōruri*, and *kabuki*, as a part of Japanese literature's history, this section refers to the overview of Japanese *geinō* by Imaoka (2008). Furthermore, the narrative genre system is associated with the Japanese history of folklore that is not completely included in literature and *geinō*. Although the narrative genre system by the author also contains folktales, festivals, folkloric events, and ceremonies, they are not generally described in literary and *geinō* histories. This section briefly introduces Japanese studies of folktales that the author has surveyed and analyzed. In addition, the proposed narrative genre system that attempts to extremely comprehensively categorize and describe narrative genres has basically limited the surveillance area to the cultural areas of Japan to which the author belongs. Therefore, the specific examples for the narrative genre system centrally deal with Japanese literature and *geinō*. This section provides their brief overviews to the readers.

Furuhashi divides the main large genres of Japanese literature into “poems and songs (詩歌: *shiika*),” “poem-tales (歌物語: *uta-monogatari*),” “narrative literature (物語文学: *monogatari bungaku*),” “diary literature (日記文学: *nikki bungaku*),” “legendary literature (説話文学: *setsuwa bungaku*),” “history literature (歴史文学: *rekishi bungaku*),” “narration literature and arts (語り物文芸: *katarimono bunngai*),” and “essay literature (随筆文学: *zuihitsu bungaku*)” to describe each historical flow. An original point of Furuhashi's Japanese literary history is not understanding these genres as only having historical definitions. For example, many literature histories

comprehend “narrative literature” in a narrow sense. In particular, they deal with it as a narrative genre similar to modern novels that mainly women writers began in the Heian era. The peak was marked by *Genji Monogatari* (1993, 1994, 1995, 1996, 1997) by Murasaki Shikibu (c. 970~978-c. 1019) and then continued until the Kamakura era. In contrast, Furuhashi adopts a viewpoint that such narrative line went through the subsequent eras and reached Katai Tayama (1872-1930) and Sōseki Natsume (1867-1916) in modern literature and Haruki Murakami (1949-) and Banana Yoshimoto (1964-) in contemporary literature. The basic method is also applied to essay literature that began with classical essays, such as *Makura no Sōshi* (2011), *Hōjōki* (1996), and *Tsurezuregusa* (1998). Furuhashi includes the works of Hideo Kobayashi (1902-1983) and Takaaki Yoshimoto (1924-2012) and research books on structuralism and cultural anthropology as well as critical and philosophical works. This description style is not necessarily used for all genres. For instance, the description of history literature ends with *Shōmonki* (2002) at the end of the Heian era, and the flow of war and biographical literature in narration literature and arts also end with *Shinchō-kōki* (2006) in the Sengoku period. However, these flows continue on to *Rheite Senki* by Shōhei Ōoka (1909-1988) (1971) and *Kukai Jōdo* by Michiko Ishimure (1927-2018) (2003). These novels have the meaning of repose of the dead. The diary literature that began in the Heian era also produced many literary works, including *Rōmaji Nikki* by Takuboku Ishikawa (1886-1912) (1977) and *Danchōtei Nichijō* by Kafū Nagai (1879-1959) (2001a, 2001b, 2001c, 2001d, 2002a, 2002b, 2002c).

The author considers that if the direct productivity of a narrative genre ends, the flow of the genre itself does not end as long as the tradition, publishing, and reception continue. More abstractly speaking, the plural activation of any elements in the multiple narrative structures can continue to hold the life of a narrative genre. Additionally, from the viewpoints of the author’s research framework, the idea of Japanese literature’s history from Furuhashi has significant values to be inherited and expanded upon in the future.

The author introduces the genre categorization of Furuhashi:

- **Poems and Songs:** This category includes the following sub-genres, works, and authors—The ancient *wakas* (*tankas*: short poems and songs; *chōkas*: long poems and songs) in the period of *Man’yōshū* (2014); *wakas Kokin Wakashū* (1966); *Goshūi Wakashū* (1997); *Shin Kokin Wakashū* (2015), etc., since the Nara era; *Imayōs* in the Heian era (*Ryōjin Hishō* (1994), etc.; *Rengas* (linked-poems) since the Kamakura

era; *haikai* or *haiku* since the Edo era (Matsuo Bashō (1644-1694), Yosa Buson (1716-1784), Kobayashi Issa (1763-1828), etc.); modern innovations of *tanka*, *haiku*, and *poem* (Shiki Masaoka (1867-1902), Mokihci Saitō (1882-1953), Akiko Yosano (1878-1942), Hakushū Kitahara (1885-1942), Takuboku Ishikawa, Tōkoku Kitamura (1868-1894), Tōson Shimazaki (1872-1943), Sakutarō Hagiwara (1872-1943), Gan Tanigawa (1923-1995), Takaaki Yoshimoto, Yoshio Kuroda (1936-), etc.).

- **Song Narratives:** From the ancient ages to the middle ages in Japan, narratives are closely associated with songs and poems. The writer and characters of a narrative work sometimes composed songs and *wakas* (short poems), and many stories were developed based on one or more poems or songs. For instance, the following works are included in this category—*Ise Monogatari* (2016), *Yamato Monogatari* (1980), *Heichū Monogatari* (1989), etc. Although this style is also seen in the literary works of the Edo era, modern Japanese literature lost this great tradition by acquiring a flat spoken language, without a rich rhythm and ending words.
- **Narrative Literature:** Narrative literature in Japan was produced as people became able to represent through written words their perspectives on nature and the world because the former ages of Chinese cultures and their delicate states of mind and feelings, using *hiragana* and *katakana*, invented from the Chinese *kanjis*. In the Heian era, many works were created, including *Taketori Monogatari* (1998), *Utsuho Monogatari* (1984), *Ochikubo Monogatari* (2011), *Genji Monogatari*, *Sagoromo Monogatari* (1965), *Yoru no Nezame* (1996), *Hamamatsu Chūnagon Monogatari* (2014) (This narrative inspired *Hōjō no Umi* by Yukio Mishima (1925-1970) (1969-1971), and *Torikahebaya* (1983). The narrative literature in the Muromachi era regained narrative vitality by mixing the oral tradition with legendary literature, creating a large subgenre, *Otogi Zōshi*. In the Edo era, the narrative literature exhibits the creativity in the following subgenres—*Kana Zōshi*, *Shōwashū*, *Kusa Zōshi* (*Kibyōshi*, *Yomihon*, *Ninjōbon*, *Kokkeibon*, and *Sharebon*). Although, originally, the narrative literature of the Heian era was based on ordinary oral language by, in particular, introducing *hiragana*, the separation between ordinary language and narrative language widened in the later ages. In the Meiji era, the colloquial style began to be used as the basis of oral language again, and many new narrative literary works were produced including the following authors—Shimei Futabatei

(1864-1909), Bimyō Yamada (1868-1910), Tōson Shimazaki, Katai Tayama, Sōseki Natsume, Ōgai Mori (1862-1922), Jun'ichirō Tanizaki (1886-1965), Saneatsu Mushanokōji (1878-1923), Takeo Arishima (1878-1923), Takiji Kobayashi (1903-1933), Ryūnosuke Akutagata (1892-1927), Riichi Yokomitsu (1898-1947), Shōhei Ōoka, Hiroshi Noma (1915-1991), Kenzaburō Ōe (1935-), Yoshikichi Furui (1937-), Haruki Murakami, Banana Yoshimoto, Yōko Tawada (1960-), Yoriko Shōno (1956-), Hiromi Kawakami (1958-), and Shun Medoruma (1960-).

- **Diary Literature:** The diary works of diary literature that began in the Heian era were not diaries in the ordinary sense. They were written based on a clear literary consciousness of song and narrative literature. From the Heian era to the Kamakura era, the following diary works were written—*Tosa Nikki* (1995) and *Kagerō Nikki* (1989) (the author stated that diaries contained many more truths than narratives). In the Kamakura era, accompanying improvements in transportation, the lower category called the “travel diary” was also created. Many diary works, including the travel diaries, were written during the Edo era. The tradition of diary literature exists in modern literature and great diary works, such as *Rōmaji Nikki* and *Danchōtei Nichijō*.
- **Legendary Literature:** Different from the narrative literature as fiction, legendary literature was a genre that basically recorded “facts” handed down, including the following works—*Nippon Ryōiki* (1973), *Konjaku Monogatari* (2015), *Gōdanshō* (1997), *Uji Shūi Monogatari* (1970), *Kojidan* (2000), *Hosshinshū* (1990), *Jikkishō* (1974), *Kokonchomonjū* (1979), and *Saikaku Shokokubanashi* (1973). As in *Konjaku Monogatari* and *Saikaku Shokokubanashi*, although the legendary literature was based on a description of facts, it had very rich narrativity. Therefore, this genre was utilized as a treasury of materials by later narrative writers. For example, several famous stories by Ryūnosuke Akutagawa and *Rashōmon* by Akira Kurosawa (1910-1998) (1952) used *Konjaku Monogatari* as their material. *Shinshaku Shokokubanashi* by Osamu Dazai (1909-1948) (1945) was also a transformed parody of *Saikaku Shokokubanashi* by Ihara Saikaku (1642-1693).
- **History Literature:** The history literature from *Kojiki* (1958) and *Nihonshoki* (2005) in the ancient age was a treasury of myths and traditions in the first age. However, after the Kamakura era, this genre continued to develop as a new and unique literary genre for narrating

and listening, rather than reading, and includes the following works—*Ōkagami* (1977), *Eiga Monogatari* (1980), *Imakagami* (2002), *Shōmonki* (2002), *Azumakagami* (2007, 2008a, 2008b, 2008c, 2009a, 2009b, 2009c, 2010a, 2010b, 2011a, 2011b, 2012, 2013, 2014, 2015), *Gukanshō* (1979), *Jin'nō Shōtōki* (1980), *Masukagami* (1965), *Heike Monogatari* (1991, 1993), *Gikeiki* (2000), *Soga Monogatari* (1987), *Taiheiki* (1960a, 1960b, 1961), and *Shinchō-kōki*.

- **Narration Literature and Arts:** As Furuhashi mentioned, narration literature and arts are deeply related to the drama and *geinō* genres. Although the typical genres include *nō*, *kyōgen*, *ningyō jō ruri*, and *kabuki*, after the modern age, *rakugo* [traditional comic storytelling] and *manzai* [comic dialogue] also became related to the flow. However, *nō*, *kyōgen*, and *ningyō jōruri* are losing their ability to create new and contemporary works. In the sense that it establishes a firm position in the Japanese history of literature, narration literature and arts are currently losing vitality, excluding *kabuki*, which has an element narration literature and arts.
- **Essay Literature:** From roughly the same age as the vitalization of narrative literature and diary literature occurred in the Heian era, essay literature began with writing, at random, an author's private opinions and feelings. The main works include *Makura no Sōshi*, *Hōjōki*, and *Tsurezuregusa*. The critique is also a subgenre of essay literature, and the first attempt made was *Karon*, a criticism of *wakas* (*Kakyō Hyōshiki* (2008), etc.). Thereafter, critiques for narrative literature (*Mumyō Zōshi* (1984a, 1984b, 1984c), etc.) and explanatory notes for classical works were also generated. In the Edo era, many essays and critiques were produced throughout diverse fields. Academic essays, such as *Tamakatsuma* (2013), and *Kojikiden* by Motoori Norinaga (1730-1801) (Motoori, 1940), were also famous. Such flows of essays and critiques prepared the way for the prosperity of literary texts other than narratives and poems in modern times. Furuhashi listed the following authors, critics, and researchers—Doppo Kunikida (1871-1908), Haruo Satō (1892-1964), Kunio Yanagita (1875-1962) (folklorist), Shinobu Orikuchi (1887-1953), Hideo Kobayashi, Yojūrō Yasuda (1910-1981), Takaaki Yoshimoto, and Masao Yamaguchi (1931-2013) (researcher of structuralism and anthropology). In addition, recent research on classical literature has also discussed the continuity of critical tradition from the past.

Imaoka explains the genres and histories of Japanese classical *geinō*. Although the production and reception of representative *geinō* genres that continue until now include *nō*, *kyōgen*, *ningyō jōruri*, and *kabuki*, diverse *geinō* genres, which prepared the way for the above-mentioned actual *geinō* genres, existed prior to the Muromachi era, the age that generated *nō* and *kyōgen*. First, in the Nara era, *Gigaku*, which originally came from Mainland China, was preserved and nourished through Japanese national institutions and propagated to various places. The *Gigaku* was a kind of masque and was performed in the form of *gyōdō*, where people marched and demonstrated with Buddhist statues and treasures in the outer field of temples. Mimicries and tabloid plays were also performed. In the Heian era, *Gigaku* declined under the influence of *Bugaku*, which newly emerged and came to an end in the Kamakura era. However, several elements have been incorporated into *Bugaku*. One example is *Shishimai* (lion dance), which has been handed down to the present. *Bugaku* is a kind of synthetic art of drama and music, and national protection and national development were conducted in a similar way to *Gigaku*. In particular, in the first period of the Heian era, large-scale *Bugaku* performances were staged in grand temples, such as Tōdaiji in Nara. In addition, it became established as an imperial event. Although the popularity of *Bugaku* historically declined, the tradition continues to the present, and the current Ministry of the Imperial Household holds a *Bugaku* orchestra. Another *geinō* that came from abroad, *Sangaku*, was featured more popularly and contained a variety of *geinō* styles, including mimicry, comedy, dance, stunts, acrobatics, magic, tricks, and puppet shows (*kugutsu*). The diversity brought popularity as many people could participate. Thereafter, *Sangaku* came to be called *Sarugaku*. *Sarugaku* has very broad meanings that do not differ from contemporary *geinō*. In *Sarugaku*, the subgenres of mimicry and the tabloid play prepared the way for the later theatrical dramas. They produced *nō* and *kyōgen* through *Dengaku*, which was a religious *geinō* genre in farming regions. In particular, medieval dramas, such as *nō* and *kyōgen*, were produced by a foundation of groups of professional *geinō* performers called *za*. The term of “*za*” has continued as a word indicating a theatre, such as Kabukiza (Tokyo), Meijiza (Tokyo), Misonoza (Nagoya), Minamiza (Kyoto), Shōchikuzo (Osaka), and Hakataza (Fukuoka). As described above, *nō* and *kyōgen* are generated as a kind of compilation of *Sarugaku*, *Dengaku*, and various related *geinō* genres. The later *ningyō jōruri* is a synthesis of both traditions of medieval narration literature and arts and the puppet show from the *Sangaku*. Further, *kabuki* is a comprehensive *geinō* art that collects and mixes *nō*, *kyōgen*, *ningyō jōruri*, and other diverse genres of literature,

narrative, and *geinō*. In addition, we cannot say that the phenomenon of *kabuki* as a classical drama or *geinō* completed its missions and created a new modern theatrical genre. By the author's opinion, the generation of a genre beyond *kabuki* as one that radically comprehended, on a large scale, the *geinōs*, literary genres, and narratives in Japan was impossible based only on a temporal correspondence that introduced Western dramas and thoughts. Creating a new comprehensive narrative genre beyond *kabuki* will be necessary for dialectic works that totally consider the traditions of *geinōs*, literatures, and narratives in Japan to innovate and reform them entirely.

The author would now like to refer to folktale studies. Although Propp (1968) refers in this book on collected Russian fairy tales to conducting a structural analysis based on "function," a basis of his structural and formal narrative analysis is the studies regarding the motifs of folktales. A motif is a narrative unit that has main characters and events or acts. Ordinarily, a folktale story is constructed based on one or more motifs. Regarding the motifs of folktales, Aarne (1969) created a collection of motifs based on Western folktales. In Japan, the structural analysis of folktales by Ozawa (1999) showed that many folktales are constructed based on the temporal transportation of the spatial structure of "heaven-ground-underground." These mixed narrative structures are symbolized, in many cases, by the basic structures of many narratives. Moreover, Yanagita (2016) and Masao Oka (1898-1982) (1979) emphasize the concept of *yamabito* in contrast to *satobito*. *Yamabitos*, as strange persons (Komatsu, 1995), are found in many folktales. They discussed the theories of *yamabito* in the association with the multiple structures in Japanese societies. Regarding motifs, Keigo Seki (1899-1990), who was a folklorist, collected many and diverse folktales of Japan to systematically categorize them in *Nihon Mukasibanashi Taisei* (Seki, Nomura, & Ōshima, 1980). In particular, he collected roughly 35,000 folktales and hierarchically classified them into subcategories. This system contains 827 kinds of motifs, which he hierarchically categorized. The largest categories are divided into "animal folktales," "ordinary folktales," and "jokes and anetotes," and the lower hierarchy has 39 kinds of subgenres called "*burui* (class)," as follows:

- **Animal Tales** (11 types): (1) Animal's conflict, (2) Animal's distribution, (3) Animal's race, (4) Animal's competition, (5) Fight of the monkey and the crab, (6) Kachi-kachi-yama, (7) Leakage of old house, (8) Animal's society, (9) Previous life of the bird, (10) Origin of the animal, (11) New episode.

- **Ordinary Folktales** (16 types): (1) Human marriage (Supernatural husbands), (2) Human marriage (Supernatural wives), (3) Human marriage (The challenges husband), (4) Supernatural birth, (5) Tales of fate, (6) Magic objects, (7) Conflict (Brothers or Sisters), (8) Conflict (Neighbors), (9) The visitor gives riches, (10) Conflict (Parent and child), (11) Strange world, (12) Animal's repayment, (13) Escape from ogre, (14) The foolish animal, (15) The man and the fox, (16) New episode.
- **Jokes and Anecdotes** (12 types): (1) Fools and numskulls A: Village of numskulls, (2) Fools and numskulls B: The foolish son-in-law, (3) Fools and numskulls C: The foolish daughter-in-law, (4) Fools and numskulls D: The foolish man, (5) Tale exaggeration, (6) The wise man A: The compared with industry, (7) The wise man B: Priest and his acolyte, (8) The cunning man A: The buffoon, (9) The cunning man B: The clever man, (10) Formula tales, (11) New episode, (12) Supplement.

In the above-mentioned categorization of literary histories in Japan by Furuhashi, oral traditions, like folktales, are classified as narrative materials that were used for giving vitality to declining narrative literature in a narrow sense. Oral tradition was also used as materials of narration literature and arts in *Sekkyōshū* (1977), etc., and were introduced into *nō*, *ningyō jōruri*, and, additionally, *kabuki*. However, in many cases, folktales have not held this position. In contrast, folktales are located in a very large and rich subgenre in narrative literature in the author's narrative genre system.

A NARRATIVE GENRE SYSTEM AND ITS SUBCATEGORIES

This chapter presents a tentative narrative genre system that aims at defining the research and analysis objects in the author's synthetic narrative study based on a computational method. One of the meanings of "tentative" in this case is that only Japanese narrative genres will be analyzed. The narrative genre system in the following part is a kind of, so to speak, phenomenological system aimed at preparing hypothetical material or corpus in the author's narrative generation study.

If narratives finally, or in various stages in the narrative production and consumption processes, exist as structures that are composed of the objects constructed from presentation modes like, words, pictures, and images; or as structures composed of a collection of elements of any modes; methods for constructing such structures should exist in the conscious and unconscious levels. Such methods are herein referred to as rhetoric. Rhetoric is a group of rules for combing through a desire (or content) to a form. As the author will describe, narratives for the author are not necessarily included in the fields of literature or arts and are dependent on the human mental and neural scientific mechanisms on the fundamental level. They cover the field of literature and arts, and further, exist in wider mental and social fields. Even if the levels of the desire driving a narrative are literary and artistic, or social, they appear as forms of narratives: there is rhetoric here. According to the author, the idea that human desire or mental content is essential, and that rhetoric is not essential is a mistake. Desire is always structured or formed through rhetoric. Desire, if it exists, is not inherently formalized and structured. Desire is only visualized and through rhetoric. Such a presentation method illustrates human mental characteristics or the constraints of the human mind and consequently what the human mind is. The problem of what desire drives what rhetoric, or what rhetoric drives what desire, brings our thought to the direction of the taxonomy of human cognitive desire. Moreover, we can first know the existence of all desires through externalization and concreteness based on rhetorical forms. The rhetoric here is, in the upstreaming sense, structure transformation rules for inferring the structure of desire as the representative motives or engines of the structures of the representative objects.

The author's narrative study including this chapter aims at research development in a few different directions. The author uses this narrative genre system as material, through explicitly developing the rhetorical system covering all stages of a narrative's plan, presentation, distribution, and reception. First, a future topic in the author's current study is to approach the human mental structure or the brain and neural scientific characteristics using narratives as material. This may be the philosophical direction in the author's narrative generation studies. Further, in this field, in the future, the author intends to develop the brain and mental scientific direction using the philosophical structure and framework of the author's entire computational narratology as a foundation. The immediate goal is to implement this rhetorical system as a formal program to develop a primitive narrative generation technology. One of the aims is to consider a narrative knowledge presentation form, or a mechanism for the presentation of narratives and

the creation and interpretation, through which all the narrative genres can be mutually connected by structure transformation relations. Combining the system that includes a narrative rhetorical system and a human system enables the development of a business model related to narrative contents. The third aim is to develop an integrated narrative content business model. This system will organically include narrative knowledge bases and other sub-systems in addition to the above narrative generation systems. If using existing narrative genres is a non-creative act, the extreme goal in this level may be the creation of narrative genres that are beyond all genres and do not currently exist. Furthermore, this survey, classification, and systematization is originally based on research that the author created based on *Heibonsha Sekai Daihyakka Jiten* [*Heibonsha World Encyclopedia*] (Hayashi, et al., 1955) and published (Ogata, 1999, 2000). The author called the table of concrete examples a “narrative genre system.” Using the term “system,” the author means that a narrative can essentially be transformed from a primitive, basic structure to various narratives with a variety of contextual elements, including the personal and cultural. In particular, narratives as a whole form a system.

The author would like to consider methods of classifying or categorizing narratives here. Like all classification methods, there are many narrative classification options including classification by eras, classification by character types, and classification by the author types among others. The rightness or significance of categorization must be judged from the difference of goals. In this chapter, the three types of categorization that are significant to this study are listed below:

1. **Functional Categorization:** This classification is based on social or mental functions of narratives and roughly overlaps with the naming of social habitual narrative genres. Even though a short movie and a long television commercial film are similar in structure and presentation, from the different social functions, the former is called a movie with artistic functions and the latter is called a commercial film with advertising functions. In addition, for example, narrative works are often transformed to many different forms from the original work, though this concept is bound to specific media, to different media, and each work has different habitual genre names.
2. **Structural Categorization:** The structure of a narrative is multi-layered. This includes the formal structure of a text, and an internal or semantic structure among others. However, narratives can be classified from the perspective of the structure of narrative texts in addition to the social

functions and representative media. As shown in the above example about a movie and a television commercial, two narratives sometimes have a similar structure though they are categorized under different functional narrative genres. Thus, narrative structural categorization is different from functional categorization. However, categorization in this level first becomes clear through a detailed analytical procedure. In contrast, the above functional classification is overlapped with social and habitual naming. Moreover, the structural categorization of narratives is, as shown in the above example of a movie and a television commercial film, a deep level categorization based on surface functions, and is directly related to the level of narrative rhetoric. Therefore, it is the level that is acquired from the results analyzed and studied functional narrative categorization as the materials. From a different viewpoint, although this study perceives the narrative production and consumption process as a multi-staged narrative structural generation and transformation, the structural narrative categorization here is similar to the first stage in the process. For instance, in the example of movie films, structural categorization is related to the stage of creating the structures of a scenario stage. Present actual scenarios of movies and dramas are bound to the characteristic of each narrative genre. However, if we can imagine scenario forms that are not strongly bound by the genres for all of conventional narrative genres, which are equal to scenario styles in the lower level, the structure, it will be possible to generate many types of narrative genres from the structures. However, a point to note is that the narrative structure must be divided into several elements. First, text bears a formal structure that is composed of various units such as character, image, and animation. This corresponds to the actual narrative level or the narrative as a phenomenon. However, in addition to a narrative that is finally expressed to the receiver, this level indicates various narrative presentation forms that exist in the previous step. For example, movie includes narrative forms in several steps, such as the scenes, the movie film before editing, and the edited film. Second is the narrative as a semantic (or internal) structure in the cognitive level that is generated through the interpretation of an actual narrative. However, the level of interpretive narrative structure has countless possibilities. Furthermore, there is the semantic (or internal) structure as a primitive form that creates an actual narrative text. This level's narrative structure can be tentatively called the generative structure in contrast to the interpretive structure. Rhetoric in this study means, the mechanism for generating

or achieving a text's phenomenological form from the above generative structure. On the other hand, it means the internal or cognitive mechanism for generating an interpretive structure by adding an interpretation to the narrative as the phenomenological form. Therefore, the narrative structural categorization here refers to the semantic and internal structures that are generated through an interpretation of the text structure as a phenomenological form. In principle, countless possibilities exist.

3. **Categorization by Modes and Media:** This categorization is based on the modes and media related to narrative presentation, distribution, and development. Narrative presentation modes include language (acoustic + visual mode), image/movie (visual mode), music/voice (acoustic mode), and body (integrated mode) among others. Distribution and development media include books, radio, television, computer, and body among others. Further, we can regard reception spaces or places such as theatres and city roads as media in a broad sense. These modes and media are the concepts connected to the actual production and consumption of narratives, and further, narrative and content business, which have great social and economic significance. Previous narrative subjects for social production-consumption were basically organized corresponding to differences of modes and media. Thus, these modes and media have been proposed as the multiplicity of narrative production and consumption, and the collectivity and organization of the production subjects considering the actual utilization of modes and media. For example, movie companies and publishing companies are mutually different units of collectivization and organization. There have been divided in form by actual conditions resulting from the technological characteristics of media. However, progressive multi-media technologies have partially destroyed the borders of various media and modes in advanced fields, at least. (Strictly speaking, this study aims to develop a universal rhetorical system to erase the narrative division by modes and media.)
4. **Categorization by Content:** This categorization is based on the type of content that is described in a narrative. What is narrative content? In particular, a narrative's content includes elements such as narrative characters, objects, and places among others. Further, the topic (theme) is also included in the content. In particular, the topic is shown by the researches and analyses of motifs and motif units that have been analyzed in the folktale study. Each motif in folktales is a unit for presenting and describing elements that are commonly used in many folktales, which

is typically similar to the description and presentation of a story line or a typical sequence of events. Each event in a motif includes specific types of characters, objects, places (stages), etc. Therefore, as Ozawa (1997) stated, a motif basically means a typical story line and the objects included in the story line. Although motif studies have been developed through folktale studies, the author regards folktales from all over the world as having universal narrative contents and structures that can be generalized for all of narrative genres. Many modern and contemporary narratives, such as novels and movies, are also constructed by a collection of motifs as seen in folktales from a very abstract viewpoint. According to the author, narratives can be generally interpreted as the diverse transformational forms of narratives, such as myths, legends, and folktales passed down through the generations from ancient times. The motifs, in the above sense, show narrative content. The above structural analyses, especially the theories and methods by Propp and other researches, deal with the level of narrative formal elements discarding the concrete contents from motifs. In this sense, the structural narrative categorization and the content-based categorization through motifs are closely related.

The author divides social and humanistic functions into the following five categories: the literary and artistic function in a narrow sense, the function based on the social and realistic utilization (social applicative function), the function representing human collective or folkloric emotions and feelings, the function organizing human social actions, and the function representing human mental and neural states. Further, these areas are categorized in detail to finally attain to actual narrative texts.

The author has basically focused on narrative genres from ancient times to contemporary Japan. A problem here is that both chronological and paradigmatic studies get mixed up in the narrative genre analysis. There are various types of narrative genres including the following: a genre that has been created and is currently received from the past, a genre that is currently received but has not been made, and a genre that has neither been created nor received.

In addition, the following is related to the problem of how the concept of a narrative can be defined. This study regards a narrative work more as the object in which one or more narratives are included than the narrative itself. Thus, for instance, the categorizations include descriptions such as “narratives as works in the narrow sense or works in the narrow sense in which narratives appear (or narratives are included).” (For example, although a descriptive text

Table 1. Five categories of narrative genre in the narrative genre system

Categories	Detailed Names
(1) Narrative works in the narrow sense	Narratives as works in the narrow sense or works in the narrow sense in which narratives appear (or narratives are included)
(2) Narrative works in the broad sense	Narratives as works in the broad sense or works in the broad sense in which narratives appear (or narratives are included)
(3) Social and emergent narrative phenomena	Narratives as social and emergent phenomena or social and emergent phenomena in which narratives appear (or narratives are included)
(4) Real narrative phenomena	Narratives that invade real phenomena or real phenomena in which narratives appear (or narratives are included)
(5) Physiological and psychological narrative phenomena	Narratives as human physiological and psychological natural phenomena or human physiological and psychological natural phenomena in which narratives appear (or narratives are included)

with no temporal progression is not strictly a narrative, the narrative can be regarded as a narrative when it is included in part of a novel that is written based on the framework of temporal progression.)

Table 1 shows five narrative genre’s categories in the proposed narrative genre system.

Furthermore, the author would like to mention a conceptual consideration. First, the author aims to create a narrative genre system that is not limited to a specific narrative area. This intention is related to the direction that attempts to deal with diverse narratives in broad areas as much as possible, and the narrative genre system divides narratives into five broad categories and arranges them into the categories organically. In this sense, the narrative genre system is a general and universal approach. On the other hand, or, at the same time, the narrative genre system explores and collects diverse concrete examples in diachronic and synchronic directions from Japanese cultural worlds centering on Japanese literature and *geinō*. This corresponds to the specific and individual approach in the narrative genre system. Thus, the author intends to establish both the general and universal approaches and the specific and individual approaches to narratives.

We can see a pioneering example in a series of studies by Propp. On the one hand, he proposed a very general and universal theoretical model in his formal study (Propp, 1968). At the same time, he published other research (Propp, 2012, etc.) as the results of surveying and collecting enormous amounts of material of folktales and folklore related to the above-mentioned general narrative model. Hence, in his entire study, both the general and universal directions and specialized and individual directions work closely together. Beyond the general opinion that although theories are essentially

general and universal, and the phenomena related to objects and materials are special, a significant coexistence of both generality and universality and specialty and personality realizes the organic mutual relationships of both directions through which the rhetorical framework is constructed, which, by aiming at the general and universal directions as much as possible, results in contradictions and mistakes based on the realistic power of specific and individual objects and materials to bridge the revision and correction.

NARRATIVE GENRE (1): NARRATIVES AS WORKS IN THE NARROW SENSE OR WORKS IN THE NARROW SENSE IN WHICH NARRATIVES APPEAR (OR NARRATIVES ARE INCLUDED)

The first genre related to narrative works in a narrow sense is explained according to the overview and an example of the genre.

An Overview

This category refers to objects that are generally called artistic works or *geinō* works. Though we may initially consider this genre's narratives to be typical, from the viewpoint of the narrative as a form symbolizing human brain and neural functions, the narrative genre in this category may be considered the most current. This is a very conscious and intentional narrative genre and, in many cases, the narrative rhetoric here is also exposed in the forms of narrative techniques. Although this type of narrative genre is the main object in the literary studies, from the author's viewpoint of narrative study, this field is only a section composing of narrative genres that are rather special.

An Example

As an example, the author explains Japanese *manga* (comics). *Manga* was originally regarded as a primitive or infantile narrative genre for children. However, during and following World War II, it was embraced by other people, and it heightened narrative techniques and quality. Although primitive *mangas* were very simplified narratives like four frames *mangas* by picture and language, the development of various presentation techniques including the division of a frame, etc. by Osamu Tezuka (1928-1989) and other artists

results in constructing long and complex narratives. As a result, *manga* has grown to a high-level, popular narrative genre. In recent narrative genres, the genre of *manga* has a very important role. In particular, many *manga* works have been applied, as the original works, to various different narrative works, such as movies, animations, television dramas, computer games, novels, and, further, *kabuki* works. Moreover, in the field of animations that is closely related to *mangas*, the movie, *Sen to Chihiro no Kamikakushi* [*Spirited Away*] by Miyazaki Hayao (1941-) (Miyazaki & Suzuki, 2001) acquired the Grand Prix at the Berlin movie festival. Thus, *mangas* and the relating narratives have been recognized as an art addition to only an entertainment.

Recently, academic studies on *manga* have begun. As the first organization, in 2000, Kyoto Seika University established the department of *manga* to conduct *manga*-related education and research including narrative composition methods and image presentation techniques, and further aimed at bringing up *manga* creators and producers through actual planning, production, and critique. The *manga* conference was also held in 2001 in this university. Although the main topics analyzed in *manga* studies are social and cultural themes, and the critiques of *manga* works, there are also researches relating to the narrative and presentation techniques and technologies of *mangas*.

For example, Fusanosuke Natsume (1950-), the grandson of Sōseki Natsume, one of the greatest authors and literary theorists in the world of modern Japanese literature, in his book, Natsume (1985) presented a study on the historical development of the combination of parts, such as pictures and lines, using the actual pictures in various *manga* works. Further, to illustrate the challenges of frames, he conducted experiments on frame positioning. Afterwards, Natsume (1997) theoretically and systematically analyzed the roles and functions of picture, language, and frame, and how the relationship among them. In particular, he elaborately analyzed the following topics using actual examples: the change of a character's face by the line's types, the functions of compression and openness by arranging frames, an idea grasping multiplied frames as the synthesis of cells (layers), and the techniques of speech balloon, onomatopoeic word, mimetic word, and so on.

Inuhiko Yomota (1953-), a researcher of movies based on semiotics and presentation theory or representation theory, analyzed frames and speech balloons (*fukidashi*) using semiotic and structural methods in his *Manga Genron* (Yomota, 1994). They are explained in the flow after he confirms basic things and shows the deviational usages and this book especially includes rich considerations on the deviational narrative discourse techniques or defamiliarization narrative discourse techniques in *manga* works. It also

covers various topics that are frequently discussed in narratology, including the techniques of temporal change, the presentation of symbolic picture and character description, and the problem of the author who appears in a work.

Sasamoto (2002) analyzed *shōjo* (girls') *mangas* based on the methods near narratology. He applied the techniques of multiplied frames in *shōjo manga*. They include the following technique: a technique is several frames that respectively describe an object dependent on different standards are overlapped; another technique is to describe in a frame as a combination of several objects, for instance, having different spaces and times. He considered that several lines of events in *manga* exist in parallel to define the narration method of *manga* for presenting them multiple times and simultaneously as a multi-layered or multiple narration. He also investigated the rhetorical effects concretely using detailed examples. Furthermore, Sasamoto indicated that the perspective (internal focus) in *manga* is related to characterization and that changes in perspective influences the reader's emotions.

Finally, McCloud (1993, 2000) defined *manga* as an art that is based on the sequence of frames and analyzed *manga* based on the history of arts. He also described interesting topics including complement processing among frames and the abstract pyramid of pictures. Further, he considered the use of computer-based *manga* in implementing a WEB-based *manga* system.

The authors analyzed a *manga* work using the narrative discourse techniques method by Gérard Genette (1930-2018) (1972) to show that *manga* is one of the narrative genres. *Meason Ikkoku* by Takahashi Rumiko (1957-) (2003a, 2003b, 2004a, 2004b, 2004c, 2004d, 2004e, 2004f, 2005a, 2005b, 2005c, 2005d, 2005e, 2005f, 2006) was adopted for the analysis. This *manga* entails a long love story that describes a variety of ordinary life scenes unfolding in an apartment, Ikkokukan, where the hero, Godai, who is studying to join a university, lives. The length is about 3,500 pages. Since its publishing, this *manga* has influenced other narrative fields such as animation, television drama, and movies. The story's overview is as follows: Godai, who lives in an old apartment, Ikkokukan, loves Otonashi, who moved to Ikkokukan as a manager. His transition from a university student to a business man, and his experiences that include his love for Otonashi and their attempts, and interactions with Ichinose, Yotsuya, Akemi, and Nikaidō, who are slightly strange, and with Mitaka, a rival of his love, Godai grows as a man, and finally marries Otonashi.

Originally, in the context of developing a "hyper-comic" (Endo & Ogata, 2002, 2003, 2004a, 2004b; Ogata & Mori, 2005) aimed at representing *manga* works using the techniques of hyper-text, the authors have analyzed

manga works. Various interesting knowledge and methods acquired through this process have connected to the continuous *manga* researches. The most unique *manga*-oriented technique found through these analyses was called “multi-layered narrative discourse.” This is a technique through which different narrative discourses are simultaneously represented in a frame. For example, for an event as a material to be described, the following presentations are arranged in a multi-layered frame: the presentation from different viewpoints (the narrative discourse of focalization); the insertion of the part and future into an event (the narrative discourse of temporal order transformation); external and internal presentations (the fusion of external and internal focalizations).

The multi-layered narrative discourse is a unique technique that is rather possible in *manga* where a narrative develops on visual screens, frames, different from novels where a narrative is developed by language. However, in a movie that is a visual narrative genre, the multi-layered screen presentation will give an unnatural and experimental impression to the receivers. Although movies and television dramas can also use the technique in which the responses of different characters for a same event are simultaneously and multiplexly represented in a divided screen, we are frequently prevented the pleasure in the appreciation of the movie by the visual technique. However, the technique in *manga* may give more natural impression to the receivers. This difference may be based on the difference between moving and static images. In the moving image, the receiver focuses on the next in the continuous flow of image and focusing on the arrangement of objects is hindered in the image in a temporal point. On the other hand, in case of *manga* as static image, the receiver can freely move the viewpoints inside an image and consider the relationships among several objects in a frame. The *manga*, which is a narrative genre, can be analyzed by applying the narrative discourse theory by Genette that was originally an analysis method for the novel genre. This fact shows that *manga* is also a narrative genre similar to novels. At the same time, as mentioned above, although *manga* is included in the narrative genre (1) like the genre of novel, when *manga* is seen in the relationships with the narrative discourse theory by Genette, it has a different interesting feature that several narrative discourse techniques can be introduced into a frame.

NARRATIVE GENRE (2): NARRATIVES AS WORKS IN THE BROAD SENSE OR WORKS IN THE BROAD SENSE IN WHICH NARRATIVES APPEAR (OR NARRATIVES ARE INCLUDED)

Next, the second genre's category, narrative works in a broad sense, is explained. The description is also divided into the overview and an example.

An Overview

The narratives, as works in a broad sense, lack the individuality of such works as arts and *geinō* and is an object that is accompanied by other things or the means for other things. However, in the comparison between arts and *geinō*, the former relatively has the color as consciously individualized works than the latter. In many cases, the latter generally has, for instance, the positioning belonging to events and institutions. However, in comparison to the second genre, the first order value is in the texts themselves. Anything belonging to the narrative is the most important. For example, an advertising narrative work is certainly the advertisement on the external existence and cannot be individual as itself. The largest reason of the existence is to contribute to the goals and purposes of the advertised products, and services among others. In newspapers, the largest value is that the message content is strictly communicated to the receivers and the aesthetic value of the style is rather the second value. However, for instance, the advertising work are able to become a work in a narrow sense in the above (1) category by individualized from the main purpose after the production. Conversely, a novel in the category (1) is also able to become a kind of advertisement more than a literary art by strengthening the feature of novel about another thing (for example, propaganda novels). As mentioned above, this is based on the same structure as a narrative. Thus, this genre's categorization strongly holds the mutual relationships with the categorization (1), is constructed by very conscious rhetoric in many cases.

An Example

As an example, the author deals with advertising genre to discuss the vague positioning as a narrative genre. The advertising narrative genre can be classified as "pragmatic texts." Of course, advertising not only functions for

the purchase of a product but serves other diverse functions, such as product awareness, creation of an impression, and as a reminder. Thus, it is not necessarily as simple as a pragmatic narrative. By an opinion (Kaji, 2001), the promotion conducts on the entire task performing the role of the invitation to the product's purchase and each advertising work has not the role. Further, a recent important opinion connects advertising functions to the brand. The brand is generally a symbol that differentiates a specific product or service from others. In advertisements, although the brand is represented through the name defined by the producers and senders of the product and service, and the other word and image, it, for the receivers, appears as the collection of associative and definite images that have as the core the first order information like the name. When the author considers advertising functions in more closed relationships with brand, the pragmatic role is indirect and long-term. At last, an advertising narrative exist for the other things (for instance, a product) instead of itself and, in many cases, the advertising narratives are able to exist in the cycle of the economic activity for propelling the distribution of the other things. In this sense, the advertising narratives are pragmatic. The pragmatic characteristics of advertising narratives are seen in the following: it has not a decided style; it has not the constraint of media (including the place) (universal characteristic); the production process is included in the highly intentional and organizational system.

At the same time, the advertising narratives present a kind of mythic feeling. They have mythic and symbolic aspects in case seen as each advertising work or in case seen, so to speak, a nebular collection by a number of advertisements. The advertising narratives, in many cases, do not focus on the psychological aspects of the characters and in many instances, ignore the psychological necessities while advocating for the nature and causality of events. Furthermore, advertising narratives can everywhere and fill the world with diverse but simple incarnations. Advertising narratives may not be based on intentions and objectives and may be for products that are dependent such as "collective unconsciousness." However, in actual social situations, advertising narrators, who are typically the directors and producers among others in the advertising companies, have strong intentions and objectives. (Actually, it is not clear who the narrator(s) is. Is the narrator a company, or various people, such as the producer, director, creator, actresses, and actors?). Further, if we view every narrative as a collection of thoughts during a particular age, artistic narratives such as novels and movies may also elicit a similar mythic feeling. In the contemporary society, it may appear that such narratives as novels and movies have rather mythical characteristics compared

to advertising narratives. Moreover, all discourses, including narratives also exist in the range between consciousness and unconsciousness, thus the collection has a kind of mythic characteristics from the unconscious structure. However, it may be too generalization. If simply advertising narratives also become mythic as a result, it is a mere general discussion. However, a radical feature of advertising narratives is to focus on the general people, further, their unconsciousness. At this point, this narrative genre is very intentional and object-oriented compared to the other narrative genres. In advertising, intentionality and objectivity are devoted to realizing mythic unconsciousness.

Thus, an advertising narrative simultaneously has seemingly contradictory characteristics, such as pragmatic and mythic characteristics, intentional or conscious and unconsciousness characteristics. It shows various different faces from where it is seen or how it is interpreted. For example, as described in the above, though an advertising narrative is pragmatic, it is also mythic. It is intentional but unconscious. In this sense, it is very plural narrative. For the author, although a narrative essentially has many characteristics or a basic idea of the “narrative generation system” study by the author is to regard a narrative as essentially plural, advertisements are able to understood as a genre that collectively represents the narrative plurality.

The author continues the discussion from a different viewpoint. The object in an advertisement is not the narrative itself. The narrative is directly and in the short term used to boosts a product’s and, in the long term, as a way of creating brand awareness and duration. (In addition, when we view a product from the advertising viewpoint, the advertised object is not the existence as an object of a specific product. It is the product as a symbol or the symbol that symbolizes a product’s category, i.e. brand.)

However, to effectively make a product appealing, integrating it into a concrete context or situation, a short story, is important. The concept of the brand is supported by the historical feature of the product or its narration. Although, in advertisement, the final goal is not appealing the narrative itself, the narrative performs an effective and essential role of appealing the product = brand. The advertising narrative is considered a necessary evil. The advertising narrative must appeal to the narrativity and, at the same time, have the capacity to deny the narrativity. From an operational perspective, in an advertising presentation, it is necessary to cut the story line of a narrative and appeal the product = brand. On the other hand, sometimes, the positive introduction of a narrative is also required. Thus, a required narrative style is the multiple composition through which narrativity and branding are unified and, at the same time, divided.

Although advertising narratives are categorized into (2) in this genre categorization, as stated above, it is a narrative genre that has a very ambiguous positioning. Particularly, it is a pragmatic narrative genre, but, in a specific case or a specific viewpoint, it is an artistic narrative genre. Further, in another case (from another viewpoint), it is rather a mythic genre. However, such narrative multiplicity is a basic standpoint in this study and the author considers that such characteristic is seen in many narrative genres in addition to the advertising narrative genre. A consideration from the standpoint is as follows: although the author divided many narratives into five categories, many (or all) narratives are able to have the features in different narrative genres according to the perspectives or viewpoints. Strictly speaking, this genre categorization here is based on the most central viewpoint for each narrative.

NARRATIVE GENRE (3): NARRATIVES AS SOCIAL AND EMERGENT PHENOMENA OR SOCIAL AND EMERGENT PHENOMENA IN WHICH NARRATIVES APPEAR (OR NARRATIVES ARE INCLUDED)

The third category is related to social and emergent narratives.

An Overview

The narrator's existence and productive intentions were clear in (1) and (2). In contrast, in this categorization, the narrative creation is rather unconsciously performed and the generation and reception process is conducted apart from the specific personal intentional control. Of course, this type of narrative is frequently used as the material. Further, it can also be presented by a specific author to become a narrative as an artistic work. The following (5) categorization is in principle the narrative that is generated and completed inside a person's brain. In contrast, this (3) categorization is focusing on emergent characteristics of narratives in the social and collective level that are very unconscious in the generative point. For example, a narrative is socially and collectively formed through narrative production and consumption by the communication, continuous generation, and distribution of narratives. A narrative is also formed through social and institutional mechanisms beyond the level of individual and arbitrary narrative generation.

An Example

As an example, the author discusses the concept of rumors. A “rumor” is information that spreads through people’s sequential informal communication within a social extent. It has the following characteristics: the truthfulness or falsehood of the information is not important; the information is not dependent on any particular knowledge; the objectivity of the generated information is not evaluated, and the information is passed through communication. “Groundless rumor” is similar to rumor from the perspective of social functions. On the other hand, “demagogy” originally means agitation politics and is not different from rumors and groundless rumors in the sense that information is intentionally spread with the aim of social disturbance. In this sense, demagogy is similar to the genre (2). An “urban legend” is a rumor that circulates in cities and is deeply related to oral traditions. Some of the known urban legends in contemporary Japan are:

- *Toile no Hanakosan (Gakkō-rei Hanako) [Hanako of the toilet].*
- *Gakkō no Ongaku-shitsu ya Rika-jikkenshitsu no Obake [Goast in a Music Room or a Laboratory in a School].*
- *McDonald Hamburger no Uwasa [McDonald Hamburger’s Rumor].*
- *Kuchisake-on’na [Woman with her Mouth Torn to her Ears].*
- *Sazaesan ya Doraemon Shūryōsetsu [Rumor of Finishing of Sazaesan and Draemon].*
- *Coca cora to Ireba [Coca cora and an Artificial Tooth].*
- *Taxy kara Kieta On’na [Disappeared Woman in Taxy].*
- *Jinmenken ya Jinmengyo [Dog with a Human-looking Face or Fish with a Human-looking Face].*
- *Atariya [An Automobile Accident Faker].*
- *Nanchatte Ojisan [Mister “Nanchatte”].*

For example, although Ōkubo (1997) reported a case around the illegal use of her paper at a university, she observed in the process of the case that simple and collective folkloric narratives, such as rumors and slanderous defamation that is too difficult to determine whether it is true and false, narratives of good guys and bad guys, and narrative of intrigue, are collectively distributed. Such narratives extremely simplify the real world, which can have a very difficult interpretation. Although this case showed the negative side, the above-mentioned narrative function can sometimes work effectively socially. In particular, in order to add any power to the real world to change

it, we must interpret the world in the framework of a narrative of narratives. Histories and ideologies are also a kind of such construction framework. Rightly and wrongly, the collective discourses of an accidental case like the one above can be interpreted in an exploratory form in the spontaneous manner of the construction framework of a phenomenon. Therefore, both the negative side of narratives and more positive side work in close cooperation. In other words, narratives have a similar function as sciences that are used to interpret floating worlds.

Kinoshita (1994) explored how contemporary urban legends in Japan are generated, developed, and transformed, through people's informal communication, and empirically proved that the formation of a rumor is related to communication by media and our thinking framework supporting the characteristics, including psychological schema, linguistic techniques, and rhetoric. The following description is based on the paper.

As an example, the basic pattern of *McDonald Hamburger no Uwasa* [*McDonald Hamburger's Rumor*] is as follows: "My friend went to a McDonald hamburger shop. She mistakenly opened the kitchen door when she went to use the toilet. There were many dead cats in the kitchen. Thinking she had found bad things, she hurriedly returned to her seat. Shortly afterwards, the shop manager approached her, asked her not to speak of the matter to other people, and gave her a dozen hamburgers."

The variations have the following forms:

- **My Friend:** This element changes based on the relationship of the sender (narrator) and receiver (narratee), and includes various variations such as "My friend's friend" and "My sister's friend."
- **Where (Place):** This element can change depending on the areas where the rumor circulates. In principle, the place is an area known by many people.
- **Toilet:** A possible reason for mistakenly entering the space where dead animals are placed is the need to use various spaces, such as "after making a telephone call" and "after leaving the shop."
- **Kitchen:** Secret, hidden, and strange places, such as garage, a small room, the backyard of the shop, refrigerator, and the garbage collection point.
- **Cat:** Animals that people do not ordinarily eat, such as mouse, dog, kangaroo, nutria, and human dead body.

Areas of Narratives or Narrative Genres

For this rumor's characteristic (1), in Japan, there was a similar rumor targeting the Chinese restaurant, "Horai" in Osaka (1950s) and this rumor spread to Chinese restaurants, *yakiniku* (roast meat) restaurants, ramen shops, and university restaurants. Further, these rumors spread to various hamburger's shops (Domodomu, Mosburger, Lotteria, etc.). On the other hand, there were, in America, Kentucky Fried Chicken (about 1971), and also similar rumors in Western German and Sweden. In these rumors which are similar, the central concept was "in famous restaurants and shops, food materials were really strange."

The second characteristic of this rumor is as follows:

1. Treated objects of the rumor are in famous shops and restaurants where many people in the areas know and these rumors have the forms of events that many people are interested in.
2. The menu of meat foods that the shops and restaurants provide contain minced meat such that people cannot directly make out the material, such as hamburger, meat bun, steamed bun with minced pork filling, as opposed to cases where people can directly see the kind of meat served such as steak.
3. The meat materials are animals that people do not eat ordinarily in their cultures and traditions.
4. These rumors answer the people's naïve question of why these shops and restaurants are popular and profitable.

Additionally, oral traditions are similar to rumors. Like rumors, oral traditions are the narratives that are generated, spread and inherited through informal and oral communication. However, the essence is similar to that of rumors and both are generated as the explanations and interpretation of cognitive ambiguity. These are based on the human essential desire to give meaning to an event that almost occurred, could occur, or one they do not want to occur. It is not necessarily factual but people that relate to it can subjectively accept it. These frequent common themes include life and death, life, the safety of body, the desire of objects (money, products), sex, relationships between men and women, foods, strange persons, holler stories on super natural phenomena.

The oral traditional characteristics in the McDonald hamburger shop's rumor include the following:

1. **Existence of Paternal Forms = A Style:** This is related to the schema in cognitive science.
2. **Variation Techniques and Linguistic Rhetoric:** They include techniques for making content indirect and vague to give credibility to the information source and, at the same time, make it impossible to investigate whether a rumor is true or not. Linguistic rhetoric makes the rumor's content interesting and captivating to the receivers.
3. **Narrative Formation Based on the Transformation Rules of a Rumor:**
 - a. **“Averaging”**, whereby the details of the narrative are discarded leaving the “skeletal” structure. For instance, “McDonald hamburgers may contain cat meat.”
 - b. **“Amplifying”**, whereby an aspect exaggerated and overstated. For example, “There was a heap of many dead cats,” “My friend who witnessed the scene was so shocked they had to be hospitalized,” and “The hash money was one hundred thousand yen.”
 - c. **“Justifying” or “Assimilating”** different variations to increase credibility. For example, “The “M” in McDonald illustrates cat ears,” “The McDonald shop managers ran out the shop when a guest imitates the cat's voice,” and “It is difficult to use only beef to make a precise round meat shape.”

Oral traditions and urban legends include the following types:

- **Folktales:** This includes the following features——common motifs; consistent story patterns; characters, animals, places, and times, which are fixed noun concepts in the narratives and change according to the features and situations of the narrator (sender) and narratee (receiver); many stories are relatively short; and the narratives have literary structures, such as “*ki-sho-ten-ketsu*” [“introduction, development, turn, and conclusion”; four-part organization of Chinese poetry] and “*ochi*” [the sudden concluding joke in *rakugo* (Japanese traditional comic storytelling)].
- **Legend:** It is difficult to define the concept of the legend based on a common meaning in the world. In Japan, many folklorists call oral traditions something other than folktales. The legend, in this definition, is a narrative genre that narrates the origins of places and characters that actually existed with concrete facts, including ages and regions. It is differentiated from the folktale as a fictional narrative genre in indeterminate eras.

- **Myth:** The concept of the myth is generally a genre of oral tradition that narrates wider worlds, more than in the case of the legend, such as, for example, the origin of a country. In Japan, there are myths, including *Nihon Shoki* and *Kojiki*, related to the origin of the Japanese nation. From a broader perspective, the oral tradition regarding gods and Buddhas in Shintoism and Buddhism is a kind of oral tradition.

Moreover, the genre division of narratives is synchronically fluid. In particular, it changes according to ages. For instance, when we look from a macro viewpoint, the author believes that the genre of stage drama was originally divided into the fourth category. However, it gradually moved to the first type of genre. In this sense, the generation and development of the first narrative genre may be positioned in the relatively recent age.

In the next example, the basic story pattern of *Kuchisake-on'na no Uwasa* [rumor of a woman with her mouth torn to her ears] is as follows: "As I walked on the road, a woman whose face was masked approached me and asked me, 'Am I beautiful?' to which I answered, 'Yes'. Suddenly, she took off her mask revealing her large, open mouth, and again asked me, 'Am I beautiful?' I fled in fear, but she pursued me in extreme speed." In the variations, new explanations and interpretations are added to the basic pattern to enrich the content. (In contrast, in the McDonald case, the main technique was to partially change the story's pattern.)

- **Her Features:** Middle-aged beautiful woman; similar to an actress; blue and white face; black face and body; long hair; description of her real height; red nail polish; thick make-up; red (blue, black, etc.) mantle; black one piece; white pantaloon and coat; white boots; black scarf; veil; hood; neckerchief; *kimono*; sun glasses; with a man (whose face was masked).
- **The Places She Appears:** Popular places such as Mitaka; Sangenjaya; the front of a McDonald shop.
- **Her Pursuing Methods:** Running on hands and knees; pursuing on her motorcycle or red Celica; running at 100 meters in seconds.
- **After She Catches Her Victim:** Does nothing; steals money; kills by cutting to pieces.
- **The Process of Her Becoming a Kuchisake-on'na:** Failed cosmetic surgery; failed corrective surgery of a burn she sustained from hot coffee; a doctor cut her mouth with a knife during a difficult labor; failed surgery after a traffic accident; being the youngest and most

beautiful of three sisters (or twins, or five sisters), her jealous sisters cut her mouth with a *falx*.

- **Ways for Escaping From Her:** Holding up a handkerchief with the smell of pomade to her; escaping into a cosmetic shop selling pomade; saying the word “pomade” three times; signing the word “dog” with the hand; chanting the word “garlic”; escaping into the record store; giving her brown candy which she likes.
- **Her Weapons:** Common knife; kitchen knife; razor; sickle; plow; knitting needle.

The following are methods of enriching the story:

- **The Constructive Principle of Three:** It indicates that a rumor started off as a folktale (or as the narrative of oral traditions). For instance, there are the magic words “Pomade, pomade, pomade,” setting of three sisters and three brothers. In addition, a universal example in the world is that the third person, youngest children, is a key-person in the narrative.
- **The Introduction of Folkloric Motifs:** For example, “Pomade, pomade, pomade,” as a magic word, pomade as a magical tool, sickle and plow as weapons (not friendly tools for children today), are frequently used. In addition, a question and answer form is also frequently used. For instance, after the question and answer scene, the character is killed or they escape.
- **The Detailed Description of the Profile of Kuchisake-on’na.**

The following types have story frameworks that are similar to *Kuchisake-on’na*:

- **Rumors:** *Ringo-on’na*, *Mimikiri-on’na*, *Matasake-on’na*, *Kamakiri-on’na*, *Suitsuki-on’na*, *Kuchisake-otoko*, *Temijika-otoko*, *Matasake-otoko*, etc.
- **Folktales:** *Kuwazu-nyōbō*, *Yuki-on’na*, *Yamahime*, *Yamajorō*, *Onibaba*, *Yamanba*, etc.
- **Fundamental Motifs:** The transformation from beauty to ugliness, the escape and pursuit, the big mouth (snake), etc.

There are three types of modes of the distribution of the oral traditions:

Areas of Narratives or Narrative Genres

1. **Inherited Oral Traditions Theory:** This is the theory that a rumor radially expands to various areas from its origin.
2. **Moving Theory:** This is the theory that an oral tradition that occurred in a specific place expands to other places in chains. The *kuchisake-on'na* is an example of this model.
3. **Plural Occurrence Theory:** This is the theory that similar oral traditions generated in various places at the same time are dependent on the magical and mysterious presentations that commonly exist in those places.

From the above discussions, the following conclusions are drawn:

- **Rumors and Oral Traditions as the Interpretation of an Event:** A rumor is generated during the process of interpreting an event. In this case, “an event” includes diverse possibilities: a real occurrence; the possibility of an occurrence; and an event that people do not want to occur. Humans cannot simply accept ambiguity and strangeness, and they seek any explanations and interpretations even if they are simple quibbles. The explanations and interpretations apply human and cultural imaginations, including knowledge, experience, attitude, desire, and emotion. People would rather accept intriguing and satisfactory interpretations than a tedious truth.
- **Rumors and Oral Traditions as Collective Images:** A rumor is not necessarily made by only a specific personal imagination but is gradually and collectively elaborated by people supporting it. The direction of concentration is not necessarily the direction of the event’s truth and further, the greatest common deviser and average of the group’s members supporting it. It takes the direction that shows the most attractive, stimulus, and, in this sense, “adequate and understandable” interpretation in the members.
- **Collective Elaboration Mechanism:** Naturally, as a tale is repeated, it is gradually changed, based on the audiences’ responses, to take on a specific direction. In oral traditions that have narrative patterns, collective elaboration was gradually and repeatedly done to the historical context. A rumor is more a reflection of the values, cultures, and the context of the times supporting the rumor more than it is a reflection of a person’s internal world. By using rumors and oral traditions, we will be able to explore the values and cultures of the people in each age.

Thus, rumors collectively show “human reality construction principle.” At the same time, it is not abstract and, as mentioned above, can be analyzed as various narrative generation techniques. It also shows that narrative techniques necessarily appear only in highly intentional narratives, such as novels, comics, and advertisements. Considerably unconscious narratives, such as rumors and oral traditions, also include diverse and common narrative techniques. The extreme genre is narratives like dreams in the narrative genre (5). This shows or indicates that humans originally hold narrative generation techniques. They are not necessarily used only in highly intentional narratives. People interpret and construct a reality using the narrative techniques.

NARRATIVE GENRE (4): NARRATIVES THAT INVADE REAL PHENOMENA OR REAL PHENOMENA IN WHICH NARRATIVES APPEAR (OR NARRATIVES ARE INCLUDED)

The fourth genre is related to our real phenomena. The following shows the overview and an example.

An Overview

Real human and social phenomena are frequently edited by the construction principle of narrative structures. In a kind of event, the narrativity is intentionally given to the action sequence. In the inherited festivals and ceremonies, institutive narrative structures are repeatedly used as the main principle of the action sequence. The distinction between festivals & ceremonies, and artistic drama is often difficult. In this study, the author treats dramas constructed according to the intended and controlled rhetoric by a specific writer as the genre (1). In contrast, the author treats ceremonies and festivals, which have been given the actual positioning in human social lives and have socially and habitually been formed not as the production by a specific author. Moreover, the genre division of narratives is synchronically fluid. In particular, it changes according to ages. For instance, when we look from a macro viewpoint, the author believes that the genre of stage drama was originally divided into the fourth category. However, it gradually moved to the first type of genre. In this sense, the generation and development of the first narrative genre may be positioned in the relatively recent age.

Although adding these kinds of real phenomena to a narrative genre may be a little unnatural, it is natural to deal with narratives as a reality formation principle as a narrative genre, from the viewpoint for comprehending narratives in a human brain and neural scientific form of thought not based on only the narrative represented as a work. Certainly, extremely pursuing such viewpoints will result in a more fundamental and comprehensive point at issue that the formation principle of human daily life is also a narrative. This does not simply mean that the daily human life is divided by a temporal standard. It rather means a narrative principle through which the division of daily life based on the temporal standard is more structured or hierarchical to have dramatic structures like *ki-shō-ten-ketsu* [introduction, development, turn and conclusion]. Thus, for instance, only a specific festival is not a narrative. Moreover, we can comprehend the reality formation principle in the meaning that treats a festival set in a seasonal positioning as an entire structure to dramatically form it as an appearance of narrativity.

An Example

As an example of this narrative genre, the author would like to refer to the death of a famous writer, Yukio Mishima. On November 25, 1970, Mishima went to the Self-Defense Forces at Ichigaya, Tokyo with three young companions. After talking with an important Self-Defense Official in a room and seizing him, Mishima went to the balcony to speak without a microphone to many officials. Although Mishima appealed to them to carry out a coup d'état or terrorist attack aimed at nationalized and authorized militarization of the Self-Defense Forces by the *Ten'no* (Emperor), he received a negative response from the audience. He gave up, returned to the first room and performed *seppuku* (*hara-kiri*). Further, two of his companions, cut off Mishima's neck aided by his *seppuku* according to the traditional manner, *kaishaku* or the last assistance. Afterward, one of his companions, Masakatsu Morita, also performed *seppuku* with *kaishaku*.

This was the death of a famous author. However, when we took away a kind of his brand, it was a personal death of a mail with a body. Of course, although the strange feeling and shock from the anachronistic method of *seppuku* and *kaishaku* was enormous, his death was rather a personal death. However, as we all know, the writer's death became a large social event that is narrated to date as an epoch-making social event. One of the reasons was that the process to the death of a famous writer was broad casted on television

and, later largely reported and narrated by mass communication media including newspapers and television stations. At the same time, Mishima also preliminarily informed authors, researchers, and journalists of the event of his death, gathering several reliable journalists at the place of his death. He had planned for his death and said various things corresponding to a kind of will among his many friends.

His death also influenced to this author of this book. As described in **BACKGROUND** in Chapter 2 of Ogata (2018), “Yukio Mishima (“三島由紀夫 (Mishima Yukio)”) in his Japanese name representation), died, shockingly, when the author was 12 years old and in the sixth year of my elementary school (1970 in the Christian Era and Shōwa 45 in the Japanese Emperors’ era). One of the first triggers of the author’s narrative study was really this impact made by the death of Mishima. For several years after his death, the author read many of his literary works and continued to feel the large impact by his death. The influence from Mishima further resulted in the author’s strong interest in *kabuki*, *ningyō jōruri*, and Japanese classical literature from boyhood. Although Japan after Mishima produced many excellent literary authors and novelists and their works, including Kōbō Abe (1924-1993) (1973, 1977), Kenzaburō Ōe (1935-) (1973, 1979, 2009), Kenji Nakagami (1946-1992) (1977, 1982), Haruki Murakami (1949-) (1985, 1994-1995), Ryū Murakami (1952-) (2005, 2013), for the author, literature gained importance after Mishima. This was also true after the Western literary writers and works from the beginning of the twentieth century until the mid, starting from the great writers and works including Marcel Proust (1871-1922) (2003), James Joyce (1882-1941) (1922, 1939), Robert Musil (1880-1942) (1930, 1932), Franz Kafka (1883- 1924) (2009a, 2009b), William Faulkner (1897-1962) (1929, 1936), Earnest Hemingway (1899-1961) (1929, 1940), and such Japanese writers and works as Sōseki Natsume (1972, 2011), Jun’ichirō Tanizaki (1924, 1946-1948), Riichi Yokomitsu (1930, 1931), and Yasunari Kawabata (1896-1972) (1970, 1996). Influenced by the above feeling, for approximately thirty subsequent years, the author has been directly away from Mishima or all kinds of worlds of literature itself. For the author, narrative generation systems have been developed as, so to speak, contemporary folktales, rather than aiming at literature. After all, since 2000, the author has reread the newest complete works by Yukio Mishima, *Ketteiban Mishima Yukio Zenshū* [*Complete Works of Mishima Yukio (Definitive Edition)*], published by Shinchōsha (2000-2006), from end to end, including many works that the author had already read in junior high and high school.

Before he turned 40, Mishima was not necessarily highly political. Certainly, when he was in the 10th grade during the Pacific War, he participated in a literary group called *Nihon Rōman-ha* [Japan Romantic School], and sometimes expressed his political and cultural opinions based on Emperor worship. However, these opinions were made up of a highly sensory psychological tendency that was influenced by the times and not associated with some particular political action. After the war, Mishima brought his non-political aesthetic and literary values to the forefront, and performed colorful and diverse literary and aesthetic activities from his stance that radically disobeyed popular common sense in his era. Basically, he did not have intention or interestingness to actual political actions. For Mishima, who died at 45 in 1970, *Shōwa 45*, his fourth decade corresponded to the last half of the 1960s during a season of politics, rebellion, and Avant-garde in the world.

In Japan, socially, student movements in universities and other places were very active. Takaaki Yoshimoto became an ideological leader and Keizaburō Ōe repeated positive political statements based on his standpoint of post-war liberalism. An interesting action by Mishima was that, at the University of Tokyo in 1969, he was invited to a meeting held by *Zenkyōtō* [All-Campus Joint Struggle League] (Mishima & Zengaku Kyōtō Kaigi, 1969) to take part in an open discussion in front of a large general audience, mainly university students, and, at the end, said that if the *Zenkyōtō* would recite “*Ten’nō-heika Banzai!*” [“Glory be to his majesty the Emperor”] at that time, he would be able to join hands with the *Zenkyōtō* to perform political acts together with them. Although *Zenkyōtō* rejected his proposition as a matter of course, Mishima’s statement showed that Mishima at this age was quite conscious of the practical effectiveness of political acts beyond simple political philosophy. The author considers that one of the largest reasons was his crisis consciousness to socialism and communism. Although the progressives and leftists in this period included people who criticized existing socialism and communism and tried to show new ideas, such as Yoshimoto and Yutaka Haniya (1909-1997), quite a lot of, so to speak, “intellectuals with progressive ideas” of their same period, with the University of Tokyo as one of the largest bases, did not hide their sympathy to socialism and communism and regarded them as ideal social systems.

In this situation, Mishima performed his death. “Such a sense of crisis against socialism and communism existed as the foundation of Mishima’s political actions. On the other hand, Mishima’s aversion was stirred up by America, which had previously been an enemy of Japan, or by the relationship between Japan and America in the post-war era, or by Japan itself. In

particular, Mishima hated that America's influence in all areas including culture had become enormous, Japan had become a vassal state or dependent country of America, and the Japanese people had become slaves of America. Perhaps this crisis of consciousness toward socialism and communism and his aversion to a Japan that was dominated by America became two poles that supported Mishima's political activities in his final years and, in the political season of that moment, Mishima performed nationalistic acts for an absolute emperor system and risked his life to defend the traditional culture of Japan. Moreover, there was a kind of philosophy supporting the above opinions regarding the association between language and reality. In particular, Mishima held an opinion that the language of literary authors and novelists was a mere excrement that is not linked to reality. In contrast, Mishima tried to consciously use language that was closely associated with the real world. An important key word in this situation was "promise." This "promise" indicated and regulated future actions and, in an essay titled *Hatashi-eteinai Yakusoku* [A Promise That Has Not Played] (1970), Mishima described how many things promised by himself and others directly after the war had not been fulfilled, and he stated frankly that he was despairing of society and perhaps himself. This essay has frequently been cited as his indication or expectation for Japan's future. Mishima himself frequently, at various times in this final period, said such things as, "I will necessarily do the thing I promised once." and "If I promised to die, I will be dead." Mishima's final dramatic action was a culmination of the above elements. Although it was a ridiculous farce at first glance, the Japanese have been obliged to disentangle the meanings and constructively interpret them since." (Ogata, 2018)

The author categorized this event in narrative genre (4). Although, the author considers this event to be a narrative that invades real phenomena or a real phenomenon in which a narrative appears, as found also in other examples, this categorization of the narrative genre system has obscure and ambiguous parts that are considered not to belong in this category. In particular, his death was highly intentional and a performance that was acted by intentionally setting up a dramatic place. In this sense, the event of his death is a kind of drama, speech performance, or ceremony. Although, usually, an event naturally occurs without the relations' intentional constructive thinking, this event holds very rich surplus. However, advertising narratives above also have this kind of feature. In particular, all narratives have many different characteristics to show a variety of faces according to the aspects to be focused on. The phenomenon of the death of Yukio Mishima was categorized in the narrative genre (4) in the sense of an event that occurred in our real world. However, Mishima in

his last moments, who gave an equal ratio of “writing” and “action,” might consider this literary work, his last and largest work. Actually, in the following history, we have considered Mishima’s *seppuku* event to be an ideological and philosophical event.

NARRATIVE GENRE (5): NARRATIVES AS HUMAN PHYSIOLOGICAL AND PSYCHOLOGICAL NATURAL PHENOMENA OR HUMAN PHYSIOLOGICAL AND PSYCHOLOGICAL NATURAL PHENOMENA IN WHICH NARRATIVES APPEAR (OR NARRATIVES ARE INCLUDED)

Finally, the fifth category is related to human physiological and psychological narratives.

An Overview

A night dream, day-dreaming, and delusion on various levels can be considered to be represented by an event sequence or a narrative. Of course, at the time a person experiences the dream or delusion, whether a narrative is truly generated in his mind is difficult to determine or evaluate. Recently, neuropsychanalysis (Kishimoto, 2015) is trying to correspond the mental stage of dreaming with the brain’s biological state. In many cases, it is confirmed through the following discourse. This type of narrative must be deeply related to the narrative of social emergent phenomenon in category (3). Although narratives in (1) and (2) are consciously constructed through the integrated feeling or intention of the narrator or sender, narratives in (3) and (5) are constructed unconsciously or subconsciously. The narratives in (3), especially narratives like rumors and oral traditions are gradually introduced into people’s consciousness, or they become literary or artistic works, through a social communication process. In contrast, narratives like dreams in (5) must be introduced to a person’s consciousness or they become a literary work through a discourse process after direct occurrence (for example, Myōe (1173-1232) (Kawai, 1995)). If the dream categorized in (5) is a personal dream, narratives like rumors and oral traditions may be called collective dreams. In contrast, an interesting point in the narratives in (5) is that, like Sigmund Freud (1856-1939) (1900) analyzed dreams as the multi-associative or fixation of the memory or Ferdinand de Saussure (1857-1913) (1983) showed an inspiration about the principle of

anagram that destroys linguistic sequential features, the narratives of dreams or delusions may transcend the surface sequential characteristics (or the story's characteristics) in a narrative at any point. The author has studied centering in the arguing point of the narrative as a human universal principle. For this, an interesting narrative form is the narrative like a dream. The narrative has multiple structures that destroy the sequential feature in ordinary narratives. This sequential feature is actually only a characteristic that selects the aspect of story in a narrative. The multiple form of a narrative may be suitable for the word of narrative in the original meaning. The other, so to speak, social narrative styles, such as arts, literature, and reports, are simplified narrative forms. They are narratives that are simplified using various methods the narrative mechanisms as complicated multiple structures. Therefore, in addition to exploring the basic form of narrative structures from the previous viewpoints of folklore and folktale theories, they should be explored from mental and psychological perspectives.

Aoki (2017a, 2017b), who is a psychiatrist, recognized through his experience counseling university students with learning disorders the importance of surveying and analyzing narratives his patients narrate and, further, their narrative generation processes. He also stated that surveying and analyzing their narrative generation processes is an important step toward finding solutions. Regarding the problem, the author considers that associating their narratives themselves with their behaviors must dynamically model the process between the two above-mentioned elements, in particular, to develop a kind of narrative generation model. Currently, learning disorders are regarded as a kind of mental functional disorder and are not regarded as a disease that the reason is possible to be brought in a biological position in the brain. In order to know the mechanism of functions, the approach of constructing the narrative generation model of learning disorders is necessary and important in giving the narrative simulation possibility. Aoki divided the narrative generation model into a "trifles-careful" narrative generation model type and a "goal-adjustment-impossible" narrative generation type in relation to the functional concept of "short-term memory" in order to construct an integrated mental narrative generation model in which actual clinical applications are possible. The concept of narrative is also important for the areas of mental medicines.

In the future, in addition to the previous viewpoints of folklore and folktale studies, the exploration of narrative genres based on brain and psychological perspectives will become an important approach. This study attempted to grasp a primitive mental mechanism in narratives or literary works in relation to

narrative phenomenological forms, the actual forms. Julia Kristeva's (1941, 1980) discussion is related to the process that actual linguistic structures are generated and established through diverse narrative rhetorical techniques from human unconscious desires.

An Example

In these narratives, dreams that people have in their sleep bear surprisingly rich information gathered from the symbolism of different forms and the images observed. Additionally, in dreams, we can experience various mysterious phenomena concerning the transition of emotions and viewpoints as follows: we frequently have quite different feeling of an object from when we are awake; a dream focuses on an arbitrary thing when a person is awake; a kind of dream ignores an important thing that possessed most of the places in the mind when a person is awake.

According to Freud (1900, 1916), a dream is a story that a human mind creates to satisfy their desire. This desire includes the following two types: one is the direct type like a sleeping human response to the physical stimuli and another type is related to desires suppressed in the mind. An example of the former is that, when a sleeping person is thirsty, they dream about drinking water. In this case, the content of the dream is intuitive, and we can understand immediately the desire that the dream aims to satisfy. On the other hand, in the latter example, we cannot easily determine the desire and, further, cannot easily guess it from the dream's content. This is for another mind's function not for satisfying the desire and Freud called it "mind censorship." This censorship works the area between the conscious and unconscious human mind and only parts passing here come to the human consciousness. Upon passing this area of the censorship, the dream's content is changed and distorted to enable comprehension of the original dream's meaning, though it is related to the satisfaction of desire as the original goal. "Dream work" means the manipulation of a dream during this process. The generated content by a dream work, or the dream as an image, is called the overt content of dream or the content of dream. In contrast, the dream, before it is changed, is called the potential content of dream or the dream thought.

Dream work includes the following four processes of compression, transposition, visualization, and second order processing.

Compression

The potential content of a dream is larger than the overt content in quantity. The reason is that large-scale compression occurs in the dream work and overt content is an indication of potential content. A basic compression aspect is omission. By using the omission technique, the entire potential content as the original form of a dream is improved and, as a result, elements that are related to as many elements as possible are selected as the elements for making overt content. The following example is a botanist's dream for explaining the compression process.

"I wrote a book about a plant, I am not sure what plant. The book is in front of me. I turn the page and see a bound, colored figure. A dried plant is attached to the book."

This is a dream that Freud had. In elements of the dream, the element of a research book on botany is especially common. From the keywords "plant," and "research book" among others, a variety of memories are associatively listed.

Another technique for the compression process is forming a new unified image. In this example, a tentative generated aspect is synthetic characters or mixed characters. This is a technique that causes characters in dreams and features of many characters to overlap into a character. For example, a character is created from the overlapping of the following several features; the body is like A, wearing clothes like B, wearing glasses like C, and speaking like D. This mixture is not similar to the simple overlapping of an image. In particular, in the features of each original characters, the common features in all or many originals are amplified, but their differences cancel each other out weakening the impression.

Finally, medium commoners are also created. This, in many cases, is the origin of the generation of strange created-words and new-words in the overt content.

Transition

One of the characteristics of dreams is the presence of inversion. For example, in emotional inversion, for the objects that a person is ordinarily fond of, they feel fearful of in the dream. There could also be inversion of the focus in a topic. For instance, a valued element in the potential content is dismissively treated in the overt content. The opposite is also possible.

Emotional inversion also occurs. Although the dream work largely changes the presentation comparing to the original potential content, emotion is not influenced by the work. Thus, the final overt content shows a gap between emotion and presentation.

As an extreme example of this phenomenon, Freud introduced a dream of the funeral ceremony of the sister's child of the dreamer: "Front me, now, dead Carl is lying down in the coffin folding his hands. Candles are burning. It is just like the scene then his brother, Otto. But, in the dream, I did not feel any pity and sadness."

This dream is, at first glance, appears to deny the core of Freud's theory which states that "a dream satisfies the desire in the mind." However, according to the Freud's analysis, "the woman who saw this dream could not forget his sister's friend who she had seen very early in her life. The man became estranged from her, but he visited her when her sister's child died and they spent time together that day. The origin of the dream was the day's memory and she saw the dream in which the sister's child died for satisfying the desire of "she want to him once more." In the dream, although in her desire, the representative part of "the man she likes" is replaced by the presentation of "her sister's death," the emotion does not change to hold the form according to the original desire. Therefore, between the presentation of the death of the child, who she loves, and her emotion, a gap occurs.

On the other hand, the inversion of the center of a topic results from the compression process. In the compression, each element has nothing to do with the original mental values. The element to be applied as the overt content is selected according to the common points with other elements. The element holding more common potential contents can easily be the central point of a topic.

Visualization

Visualization is the work of making symbols that is especially famous in the dream interpretation by Freud. In particular, this work exchanges both thoughts that originally have no physical forms and objects connecting directly to a desire for hiding from the censorship to the different events. As a result, Freud offered various interpretations such as seeing a room in a dream symbolizes a female.

Second Order Processing

The second order processing is the final stage in dream work. A huge difference from the above works is the part that is performed in the mental censorship. The elements to be an overt dream in the compression become the gathering of broken fragments without logical connections among the elements. The second order processing integrates the elements and fills the spaces in order to process them into the entire flow with a story.

This narrative work's consistent process flow can be interpreted as the problem of the relationships between a story or narrative content and the narrative discourse based on the story or narrative content in the context of narrative generation.

CONCLUSION

This chapter presented a large categorized system of narrative genres, that is, a "narrative genre system." It was related to the division of the objects or materials of research and analysis in the synthetic narrative generation study based on computational methods. Throughout the book, the author consciously used Japanese narratives which include both universal narrative characteristics and local or cultural features; however, this narrative genre system was also constructed using Japanese narrative genres as concrete materials in many parts. More precisely speaking, the author intended to organize the narrative genre system (or the current version) based on the range of narratives that we can experience in the contemporary Japan.

For providing the background knowledge to readers, in **BACKGROUND**, the author described "studies on narrative genres" and "histories of Japanese literature, *geinō*, and folklore" as necessary prior knowledge for reading this book. The author thought of the latter as the history of Japanese literature in a broad sense. Regarding the latter, this section extracted many genres in the narratives in Japanese literature and the related narratives in cultural areas to make a list of narrative genres. An important viewpoint was that narratives did not necessarily appear only in literary areas. Narratives appear in other *geinō*s, entertainment, social events, and other many areas. In this chapter, the author had studied extensively a wide area of narratives, including Japanese literature in a broad sense and history.

A NARRATIVE GENRE SYSTEM AND ITS SUBCATEGORIES is a central section in this chapter. Throughout this chapter, narrative genres were classified into the following five categories:

1. Narratives as works in the narrow sense or works in the narrow sense in which narratives appear (or narratives are included).
2. Narratives as works in the broad sense or works in the broad sense in which narratives appear (or narratives are included).
3. Narratives as social and emergent phenomena or social and emergent phenomena in which narratives appear (or narratives are included).
4. Narratives that invade real phenomena or real phenomena in which narratives appear (or narratives are included).
5. Narratives as human physiological and psychological natural phenomena or human physiological and psychological natural phenomena in which narratives appear (or narratives are included).

The author explained each genre category and showed one or more examples for each genre. As this narrative genre system is a first organization of this research, it will enable many future directions, such as the re-organization of categorization, the expansion of narrative genres, the development of database systems and knowledge base systems, and the incorporation with INGS and other narrative-related systems.

ACKNOWLEDGMENT

This chapter's research was supported by JSPS KAKENHI Grant Number18K18509, Kayamori Foundation of Information Science Advancement Research Grant, The Telecommunication Advancement Foundation Research Grant, and AOI TYO Holdings Inc.

REFERENCES

Aarne, A. (1969). *Mukashibanashi no hikaku kenkyū* [Comparative study of the folktale] (K. Seki, Trans.). Tokyo, Japan: Iwasaki Bijutsusya. (Original work published 1913)

Abe, K. (1974). *The box man* [Hako-otoko] (E. Da. Saundersr, Trans.). New York: Random House. (Original work published 1973)

Abe, K. (1979). *Secret rendezvous* [Mikkai] (J. W. Carpenter, Trans.). New York: Knopf. (Original work published 1977)

Aoki, S. (2017a). Learning difficulty and story generation. In *Proceedings of the 34th Annual Meeting of the Japanese Cognitive Science Society* (OS18-8I). Tokyo, Japan: Japanese Cognitive Science Society.

Aoki, S. (2017b). Learning difficulty and story generation: From the viewpoint of psychiatry. In *Proceedings of the 56th Special Interest Group on Language Sense Processing Engineering* (pp. 53-57). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Azumakagami. (2007). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami, 1* [Modern Japanese translation Azumakagami, 1]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2008a). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami, 2* [Modern Japanese translation Azumakagami, 2]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2008b). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami, 3* [Modern Japanese translation Azumakagami, 3]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2008c). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami, 4* [Modern Japanese translation Azumakagami, 4]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2009a). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami, 5* [Modern Japanese translation Azumakagami, 5]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Areas of Narratives or Narrative Genres

Azumakagami. (2009b). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami*, 6 [Modern Japanese translation Azumakagami, 6]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2009c). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami*, 7 [Modern Japanese translation Azumakagami, 7]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2010a). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami*, 8 [Modern Japanese translation Azumakagami, 8]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2010b). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami*, 9 [Modern Japanese translation Azumakagami, 9]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2011a). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami*, 10 [Modern Japanese translation Azumakagami, 10]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2011b). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami*, 11 [Modern Japanese translation Azumakagami, 11]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2012). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami*, 12 [Modern Japanese translation Azumakagami, 12]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2013). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami*, 13 [Modern Japanese translation Azumakagami, 13]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2014). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami, 14* [Modern Japanese translation Azumakagami, 14]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2015a). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami, 15* [Modern Japanese translation Azumakagami, 15]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Azumakagami. (2015b). In F. Gomi & K. Hongō (Eds.), *Gendaigo-yaku Azumakagami, 16* [Modern Japanese translation Azumakagami, 16]. Tokyo, Japan: Yoshikawa Kōbunkan. (Original work published the end of the Kamakura era)

Dazai, O. (1945). *Shinshaku shokokubanashi* [A new version of countries' tales]. Tokyo, Japan: Seikatsusha.

Eiga Monogatari. (1980). *Story of splendor* [Eiga monogatari] (W. H. McCullough, & H. C. McCullough, Trans.). Tokyo, Japan: The University of Tokyo Press.

Endo, Y., & Ogata, T. (2002). Hyper-comic system as representation field of narrative discourse. In *Proceedings of 17th Congress of the International Association of Empirical Aesthetics* (pp. 555-558). Rome, Italy: University of Rome Tre.

Endo, Y., & Ogata, T. (2003). Hyper-comic system as consideration of rhetoric. In *Proceedings of The 4th International Conference on Cognitive Science* (pp. 111-116). Seattle, WA: Cognitive Science Society.

Endo, Y., & Ogata, T. (2004a). A rhetorical analysis of a Japanese comic for hyper-comic system. In *Proceedings of 18th Congress of the International Association of Empirical Aesthetics* (pp. 502-508). Rome, Italy: University of Rome Tre.

Endo, Y., & Ogata, T. (2004b). Multilayered discourse in hyper-comic. In *Proceedings of the Ninth International Symposium on Artificial Life and Robotics* (Vol. 1, pp. 49-52). Oita, Japan: International Society of Artificial Life and Robotics.

Faulkner, W. (1929). *The sound and the fury*. London, UK: Jonathan Cape and Harrison Smith.

Areas of Narratives or Narrative Genres

- Faulkner, W. (1936). *Absalom, absalom!* New York: Random House.
- Freud, S. (1900). *Die Traumdeutung*. Leipzig und Wien, Germany: Franz Deuticke.
- Freud, S. (1916). *Vorlesungen zur Einführung in die Psychoanalyse*. Wien, Austria: H. Heller.
- Furuhashi, N. (2010). *Nihon bungaku no nagare* [The flow of Japanese literature]. Tokyo, Japan: Iwanami Shoten.
- Genette, G. (1972). *Discours du récit, Essai de méthode, Figures III*. Paris: Seuil.
- Genji Monogatari. (1993). In *Shin nihon koten bungaku taikai, 19* [New Japanese classic literature collection, 19]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)
- Genji Monogatari. (1994). In *Shin nihon koten bungaku taikai, 20* [New Japanese classic literature collection, 20]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)
- Genji Monogatari. (1995). In *Shin nihon koten bungaku taikai, 21* [New Japanese classic literature collection, 21]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)
- Genji Monogatari. (1996). In *Shin nihon koten bungaku taikai, 22* [New Japanese classic literature collection, 22]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)
- Genji Monogatari. (1997). In *Shin nihon koten bungaku taikai, 23* [New Japanese classic literature collection, 23]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)
- Gikeiki. (2000). In *Shinpen nihon koten bungaku zenshū, 62* [New edition Japanese classic literature collection, 62]. Tokyo, Japan: Shōgakukan. (Original work published the Kamakura era or the Muromachi era)
- Gōdāshō. (1997). In *Shin nihon koten bungaku taikai, 32* [New Japanese classic literature collection, 32] (pp. 29-254). Tokyo, Japan: Iwanami Shoten. (Original work published the early 12th century)
- Goshūi Wakashū. (1997). In *Shin nihon koten bungaku taikai, 8* [New Japanese classic literature collection, 8]. Tokyo, Japan: Iwanami Shoten. (Original work published the 11th century)

Gukanshō. (1979). In *Future and the past: Translation and study of the "Gukansho", an interpretative history of japan written in 1219* (D.M. Brown & I. Ishida, Trans.). University of California Press. (Original work published the early Kamakura era)

Hamamatsu Chūnagon Monogatari. (2014). In *A tale of eleventh century Japan: Hamamatsu chūnagon monogatari* (T. H. Rohlich, Trans.). Princeton, NJ: Princeton University Press. (Original work published 11th century)

Hayashi, T. (Eds.). (1955). *Sekai dai hyakka jiten* (1-32). Tokyo, Japan: Heibonsha.

Heichū Monogatari. (1989). In *Tales of Heichū* (S. D. Videen, Trans.). Cambridge, MA: Harvard University Press. (Original work published from the mid 10th to the early 11th centuries)

Heike Monogatari. (1991). In *Shin nihon koten bungaku taikai, 44* [New Japanese classic literature collection, 44]. Tokyo, Japan: Iwanami Shoten. (Original work published the Kamakura era)

Heike Monogatari. (1993). In *Shin nihon koten bungaku taikai, 45* [New Japanese classic literature collection, 45]. Tokyo, Japan: Iwanami Shoten. (Original work published the Kamakura era)

Hemingway, E. (1929). *A farewell to arms*. New York: Charles Scribner's Sons.

Hemingway, E. (1940). *For whom the bell tolls*. New York: Charles Scribner's Sons.

Hōjōki. (1996). In *Hōjōki: Visions of a torn world* (Y. Moriguchi, & D. Jenkins, Trans.). Stone Bridge Press. (Original work published 1212, the Kamakura era)

Hosshinshū. (1990). In *The buddhist poetry of the great Kamo priestess: Daisai'in senshi and Hosshin wakashū* (E. Kamens, Trans.). Center for Japanese Studies, University of Michigan. (Original work published c. before 1216, the Kamakura era)

Imakagami. (2002). In *Ima kagami* (Bentley, Trans.). New York: Edwin Mellen Press.

Imaoka, K. (2008). *Nihon koten geinōshi* [The history of Japanese classical performing arts]. Tokyo, Japan: Musashino Arts University Press.

Areas of Narratives or Narrative Genres

- Ise Monogatari. (2016). In *The tales of Ise* (P. MacMillan, Trans.). London, UK: Penguin Books. (Original work published the early Heian era)
- Ishikawa, T. (1977). *Romaji nikki* [Romaji (Roman character) diary]. Tokyo, Japan: Iwanami Shoten. (Original work published 1961)
- Ishimure, M. (2003). *Paradise in the sea of sorrow: Our minamata disease* [Kukai jōdo] (L. Monnet, Trans.). University of Michigan Center for Japanese Studies. (Original work published 1969) doi:10.3998/mpub.9340122
- Jikkinshō. (1974). *Jikkinshō: A miscellany of ten maxims* (J.S. Brownlee, Trans.). *Monumenta Nipponica*, 29(2), 161. (Original work published the middle of the Kamakura era)
- Jin'nō Shōtōki. (1980). *A chronicle of gods and sovereigns: Jinnō shōtōki of Kitabatake Chikafusa* (H. P. Varley, Trans.). New York: Columbia University Press. (Original work published the Nanbokuchō era)
- Joyce, J. (1922). *Ulysses*. Paris: Sylvia Beach.
- Joyce, J. (1939). *Finnegans wake*. London, UK: Faber and Faber.
- Kafka, F. (2009a). *The trial* (M. Michell, Trans.). Oxford, UK: Oxford University Press. (Original work published 1925)
- Kafka, F. (2009b). *The castle* (A. Bell, Trans.). Oxford, UK: Oxford University Press. (Original work published 1926)
- Kaji, Y. (2001). *Kōkoku no meisō—Kigyō kachi wo takameru* [Wondering of advertisement]. Tokyo, Japan: Senden Kaigi.
- Kakyō Hyōshiki. (2008). In T. Okimori, R. Hirasawa, I. Yajima, & M. Satō (Eds.), *Kakyō hyōshiki—Eiin to chūshaku* [Kakyō hyōshiki: Photocopy and comments]. Tokyo, Japan: Ōfū. (Original work published the 8th century)
- Katō, S. (1997). *A history of Japanese literature: From the Man'yōshū to modern times* (D. Sanderson, Trans. & Ed.). Tokyo, Japan: Kōdansha International (Original works published 1975, 1980)
- Kawabata, Y. (1970). *The sound of the mountain* [Yama no oto] (E. G. Seidensticker, Trans.). New York: Knopf. (Original work published 1961)
- Kawabata, Y. (1996). *Snow country* [Yukiguni] (E. G. Seidensticker, Trans.). New York: Knopf. (Original works published 1935, 1937, 1947)

Kawai, H. (1995). *Myōe—Yume wo ikiru* [Myōe: Living dreams]. Tokyo, Japan: Kōdansha.

Kinoshita, T. (1994). Gendai no uwasa kara kōtō densyō no hassei mechanism wo saguru—McDonald's Hamburger no uwasa to kuchisake on'na no uwasa [Exploring the generation mechanism of oral traditions from contemporary rumors]. In T. Kinoshita & T. Yoshida (Eds.), *Kigō to jōhō no kōdōkagaku* (pp. 45–97). Tokyo, Japan: Fukumura Shuppan.

Kishimoto, N. (2015). *Neuropsychoanalysis he no shōtai* [Introduction to Neuropsychoanalysis]. Tokyo, Japan: Seishin Shobō.

Kojidan. (2005). In *Shin nihon koten bungaku taikai, 41* [New Japanese classic literature collection, 41] (pp. 27-600). Tokyo, Japan: Iwanami Shoten. (Original work published the early Kamakura era)

Kojiki. (1958). In *Nihon koten bungaku taikai, 1* [Japanese classic literature collection, 1]. Tokyo, Japan: Iwanami Shoten. (Original work published 712)

Kokin Wakashū. (1966). In *Kokinshū: A collection of poems ancient and modern* (L. R. Rodd & M. C. Henkenius, Trans.). Boston, MA: Cheng & Tsui. (Original work published the early 10th century)

Kokonchomonjū. (1979). In *Nihon koten bungaku taikai, 84* [Japanese classic literature collection, 84]. Tokyo, Japan: Iwanami Shoten. (Original work published c. 1254, the Kamakura era)

Komatsu, K. (1995). *Ijin ron—Minzoku syakai no shinsei* [Strange people theory]. Tokyo, Japan: Chikuma Shobō.

Konjaku Monogatari-shū. (2015). *Japanese tales from times past* (N. Koriyama & B. Allen, Trans.). Tokyo, Japan: Tuttle Publishing Japan. (Original work published the end of the Heian era)

Kristeva, J. (1980). *Desire in language: A semiotic approach to literature and art*. New York: Columbia University Press. (Original work published 1969)

Kurosawa, A. (Director), & Ito, M. (Producer) (1952). *Tora no o wo fumu otokotachi* [The men who tread on the tiger's tail] (Motion picture). Tokyo, Japan: Tōhō.

Makura no Sōshi. (2011). *The pillow book of Sei Shōnagon* (A. Waley, Trans.). Tuttle Publishing. (Original work published the middle of the Heian era)

Areas of Narratives or Narrative Genres

- Man'yōshū. (2014). *Man'yō luster* (H. Levy, Trans.). Tokyo, Japan: PIE International. (Original work published the 7th century to the 8th century)
- Masukagami. (1965). In *Nihon koten bungaku taikai*, 87 [Japanese classic literature collection, 87] (pp. 213-531). Tokyo, Japan: Iwanami Shoten. (Original work published the Nanbokuchō era)
- McCloud, S. (1993). *Understanding comics: The invisible art*. Tundra Publishing.
- McCloud, S. (2000). *Reinventing comics*. New York: Paradox Press.
- Mishima, Y., & Zengaku Kyōtō Kaigi (1969). *Tōron Mishima Yukio vs. Tōdai Zenkyōtō—Bi to kyōdōtai Tōdai tōsō* [Debate Mishima Yukio vs. All-campus joint struggle league]. Tokyo, Japan: Shinchōsha.
- Mishima, Y. (1969-1971). *Hōjō no umi (4 kan)* [The sea of fertility (4 volumes)]. Tokyo, Japan: Shinchōsha.
- Mishima, Y. (2000-2006). *Ketteiban Mishima Yukio zenshū, 1-42* [Complete works of Mishima Yukio (definitive edition), Vols. 1-42]. Tokyo, Japan: Shinchōsha.
- Miyazaki, S. (Director) & Suzuki, T. (Producer) (2001). *Sen to Chihiro no kamikakushi* [Spirited away] [Motion picture]. Tokyo, Japan: Studio Ghibli.
- Motoori, N. (1940). *Kojikiden*. Tokyo, Japan: Iwanami Shoten. (Original work published 1790-1822)
- Murakami, H. (1991). *Hard-boiled wonderland and the end of the world* [Sekai no owari to hard-boiled wonderland] (A. Birnbaum, Trans.). Tokyo, Japan: Kōdansha International. (Original work published 1985)
- Murakami, H. (1997). *The wind-up bird chronicle* [Nejimaki-dori chronicle] (J. Rubin, Trans.). New York: Vintage Books. (Original works published 1994-1995)
- Murakami, R. (2005). *In the miso soup* [In the miso soup] (R. F. McCarthy, Trans.). London, UK: Bloomsbury Publishing. (Original work published 1997)
- Murakami, R. (2013). *Coin locker babies* [Coin locker babies] (S. Snyder, Trans.). London, UK: Pushkin Press. (Original work published 1980)
- Musil, R. (1930). *Der Mann ohne Eigenschaften* (Vol. 1). Reinbek, Germany: Rowohlt Verlag.

- Musil, R. (1932). *Der Mann ohne Eigenschaften* (Vol. 2). Reinbek, Germany: Rowohlt Verlag.
- Nagai, K. (2001a). *Danchōtei nichijō*, 1 [Danchōtei diary, Vol. 1]. Tokyo, Japan: Iwanami Shoten. (Original work written 1917-1957)
- Nagai, K. (2001b). *Danchōtei nichijō*, 2 [Danchōtei diary, Vol. 2]. Tokyo, Japan: Iwanami Shoten. (Original work written 1917-1957)
- Nagai, K. (2001c). *Danchōtei nichijō*, 3 [Danchōtei diary, Vol. 3]. Tokyo, Japan: Iwanami Shoten. (Original work written 1917-1957)
- Nagai, K. (2001d). *Danchōtei nichijō*, 4 [Danchōtei diary, Vol. 4]. Tokyo, Japan: Iwanami Shoten. (Original work written 1917-1957)
- Nagai, K. (2002a). *Danchōtei nichijō*, 5 [Danchōtei diary, Vol. 5]. Tokyo, Japan: Iwanami Shoten. (Original work written 1917-1957)
- Nagai, K. (2002b). *Danchōtei nichijō*, 6 [Danchōtei diary, Vol. 6]. Tokyo, Japan: Iwanami Shoten. (Original work written 1917-1957)
- Nagai, K. (2002c). *Danchōtei nichijō*, 7 [Danchōtei diary, Vol. 7]. Tokyo, Japan: Iwanami Shoten. (Original work written 1917-1957)
- Nakagami, K. (1977). *Karekinada* [The sea of Kareki]. Tokyo, Japan: Kawade Shobō Shinsha.
- Nakagami, K. (1982). *Sen'nen no yuraku* [A thousand years of pleasure]. Tokyo, Japan: Kawade Shobō Shinsha.
- Natsume, F. (1985). *Natsume Fusanosuke no manga-gaku* [Natsume Fusanosuke's manga theory]. Tokyo, Japan: Yamato Shobō.
- Natsume, F. (1997). *Manga ha naze omoshiroi noka* [Why is manga interesting?]. Tokyo, Japan: Nihon Hōsō Shuppan Kyōkai (NHK Shuppan).
- Natsume, S. (1972). *I am a cat* [Wagahai ha neko dearu] (A. Ito & F. Wilson, Trans.). Tuttle Publishing. (Original work published 1905)
- Natsume, S. (2011). *Light and darkness: Natsume Sōseki's Meian* (V. H. Viglielmo, Trans.). CreateSpace. (Original work published 1916)
- Nihonshoki. (2005). *Nihongi: Chronicles of Japan from the earliest times to A.D.697* (W. G. Aston, Trans.). Tokyo, Japan: Tuttle Publishing Japan. (Original work published the Nara era)

Areas of Narratives or Narrative Genres

Nikki, K. (1989). *Shin nihon koten bungaku taikei*, 24 [New collection of Japanese classic literature 24] (pp. 35–249). Tokyo, Japan: Iwanami Shoten.

Nippon Ryōiki. (1973). *Miraculous stories from the Japanese buddhist tradition: The Nihon Ryōiki of the monk kyōkai* (K. Nakamura, Trans.). Cambridge, MA: Harvard University Press. (Original work published the early Heian era)

Ochikubo Monogatari. (2011). *Ochikubo monogatari: The tale of the lady Ochikubo* (W. Whitehouse, & E. Yanagisawa, Trans.). London, UK: Routledge. (Original work published the end of the 10th century)

Ōe, K. (1973). *Kōzui wa waga tamashii ni oyobi* [The flood invades my spirit]. Tokyo, Japan: Shinchōsha.

Ōe, K. (1979). *Dōjidai game* [The game of contemporaneity]. Tokyo, Japan: Shinchōsha.

Ōe, K. (2015). *Death by water* [Suishi] (D. B. Boehm, Trans.). New York: Grove Press. (Original work published 2009)

Ogata, T. (1999). Comprehensive consideration of a narrative genre system. In *Proceedings of 2nd Workshop of Literature and Cognition, Computer in Tokyo'99 Winter* (pp. 85-91). Tokyo, Japan: Japanese Cognitive Science Society.

Ogata, T. (2000). Monogatari genre taikei no mōrateki kentō. In N. Yoshimine, H. Akama, & A. Tokosumi (Eds.), *Japan Cognitive Science Society Technical Report 00-No.40 "Literature and Cognition/Computer 2: Expanding Literature"* (pp. 163–166). Tokyo, Japan: Japanese Cognitive Science Society.

Ogata, T. (2018). An integrated approach to narrative generation: From Mishima and kabuki to narrative generation systems. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 49-147). Hershey, PA: IGI Global.

Ogata, T., & Mori, Y. (2005). A systematic view of narrative discourse based on “hyper-comic” system with automatic generation mechanism. In *Proceeding of the 19th Annual Conference of the Japanese Society for Artificial Intelligence* (3D3-01). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Oka, M. (1979). *Ijin sonota—Nihon minzoku = bunka no genryū to nihon kokka no keisei* [Strangers and others]. Tōkyō, Japan: Gensōsha.

Ōkagami. (1977). *The ōkagami: A japanese historical tale* (J. K. Yamagiwa, Trans.). Tokyo, Japan: Tuttle Publishing Japan.

Ōkubo, Y. (1997). Tsukuba daigaku “ronbun tōyōjiken” ni sōgū shite [Encountering the case of a paper’s plagiarization at Tsukuba Univeristy]. In C. Ueno (Ed.), *Campus sei sabetsu jijō—Stop the akahara* [The situation of sex discrimination in universities: Stop the harassment and discrimination in universities] (pp. 204-220). Tokyo, Japan: Sanseidō.

Ōoka, S. (1971). *Leyte senki* [A record of the battle of Leyte]. Tokyo, Japan: Chūōkōron-shinsha.

Ozawa, T. (1997). *Mukashibanashi nyūmon* [Intoroduction to folk tales]. Tokyo, Japan: Gyōsei.

Ozawa, T. (1999). *Mukashibanashi no gohō* [The narrative grammar of the folktale]. Tokyo, Japan: Fukuinkan Shoten.

Propp, V. Y. (1968). *Morphology of the folktale* (L. Scott, Trans.). Austin, TX: University of Texas Press. (Original work published 1928)

Propp, V. Y. (2012). *Russian folktale by Vladimir Yakovlevich Propp* (S. Forrester, Trans.). Detroit, MI: Wayne State University Press. (Original work published 1984)

Proust, M. (2003). *In search of lost time* (T. Kilmartin, Trans.). New York: Modern Library. (Original work published 1913-1927)

Ryōjin Hishō. (1994). In *Songs to make the dust dance: The Ryōjin hishō of twelfth-century Japan* (Y-H. Kim Trans.). University of California Press. (Original work published the end of the Heian era)

Sagoromo Monogatari. (1965). In *Nihon koten bungaku taikei, 79* [Japanese classic literature collection, 79]. Tokyo, Japan: Iwanami Shoten. (Original work published the middle of the Heian era)

Saikaku Shokokubanashi. (1973). In *Nihon koten bungaku zensyū, 39* [Japanese classic literature collection, 39]. Tokyo, Japan: Shōgakukan. (Original work published 1685)

Sasamoto, J. (2002). *Manga no katari ni okeru shiten to sono ketteiin toshite no naigo*. In J. Berndt (Ed.), *Manbiken: Manga no bi, gakuteki na jigen heno sekkīn* [Toward an aesthetics of comics]. Kyoto, Japan: Daigo Shobō.

Areas of Narratives or Narrative Genres

Saussure, F. (1983). *Course in general linguistics* (C. Bally & A. Sechehaye, Eds., Harris R., Trans.). La Salle, IL: Open Court. (Original work published 1949)

Sekkyōshū. (1977). [Sermon Ballad Collection]. In *Shinchō koten shūsei* [Shinchō classic collection]. Tokyo, Japan: Shinchōsha. (Original works published from the middle age to the Edo era)

Shin Kokin Wakashū. (2015). In *Shinkokinshū: New collection of poems ancient and modern* (L. R. Rodd, Trans.). Leiden, The Netherlands: Brill Academic Publishing. (Original work published the early 13th century, the Kamakura era)

Shinchō-kōki. (2006). [Authorized Biography of Oda Nobunaga]. In *Gendaigo yaku Shinchō-kōki* (T. Nakagawa, Trans.). Tokyo, Japan: Shin Jinbutsu Ōraisha. (Original work published the early Edo era)

Shōmonki. (2002). [Biography of Taira no Masakado]. In *Shinpen nihon koten bungaku zensyū, 41* [New edition Japanese classic literature collection, 41]. Tokyo, Japan: Shōgakukan. (Original work published the 10th century, the Heian era)

Soga Monogatari. (1987). *The tale of the Soga brothers* (T. J. Cogan, Trans.). Tokyo, Japan: University of Tokyo Press. (Original work published the Kamakura era)

Taiheiki. (1960a). In *Nihon koten bungaku taikei, 34* [Japanese classic literature collection, 34]. Tokyo, Japan: Iwanami Shoten. (Original work published the Muromachi era)

Taiheiki. (1960b). In *Nihon koten bungaku taikei, 35* [Japanese classic literature collection, 35]. Tokyo, Japan: Iwanami Shoten. (Original work published the Muromachi era)

Taiheiki. (1961). In *Nihon koten bungaku taikei, 36* [Japanese classic literature collection, 36]. Tokyo, Japan: Iwanami Shoten. (Original work published the Muromachi era)

Takahashi, R. (2003a). *Maison Ikkoku*, Vol. 1. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2003b). *Maison Ikkoku*, Vol. 2. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004a). *Maison Ikkoku*, Vol. 3. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004b). *Maison Ikkoku*, Vol. 4. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004c). *Maison Ikkoku*, Vol. 5. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004d). *Maison Ikkoku*, Vol. 6. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004e). *Maison Ikkoku*, Vol. 7. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2004f). *Maison Ikkoku*, Vol. 8. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005a). *Maison Ikkoku*, Vol. 9. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005b). *Maison Ikkoku*, Vol. 10. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005c). *Maison Ikkoku*, Vol. 11. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005d). *Maison Ikkoku*, Vol. 12. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005e). *Maison Ikkoku*, Vol. 13. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2005f). *Maison Ikkoku*, Vol. 14. VIZ Media LLC. (Original work published 1980-1987)

Takahashi, R. (2006). *Maison Ikkoku*, Vol. 15. VIZ Media LLC. (Original work published 1980-1987)

Taketori Monogatari. (1998). *The tale of the bamboo cutter* (D. Keene, Trans.). Tokyo, Japan: Kōdansha International. (Original work published the early Heian era)

Tamakatsuma. (2013). *Tamakatsuma: A window into the scholarship of Motoori Norinaga* (J. R. Bentley, Trans.). New York: East Asia Program, Cornell University. (Original work published 1795-1812)

Areas of Narratives or Narrative Genres

Tanizaki, J. (1933). *Shunkinshō* [A portrait of Shunkin]. Tokyo, Japan: Sōgensha.

Tanizaki, J. (1946-1948). *Sasameyuki*. Tokyo, Japan: Chūōkōronsha.

Todorov, T. (1978). *Les genres du discours*. Paris: Le Seuil.

Torikaheba. (1983). *The changelings: A classical Japanese court tale* (R. F. Willig, Trans.). Stanford University Press. (Original work published the end of the Heian era)

Tosa Nikki. (1995). [Tosa Diary]. In *Shinpen nihon koten bungaku zensyū*, 13 [New edition Japanese classic literature collection, 13] (pp. 13-80). Tokyo, Japan: Shōgakusan. (Original work published c. 934)

Tsurezuregusa. (1998). In *Essays in idleness: The Tsurezuregusa of Kenkō, with a new preface* (D. Keene, Trans.). New York: Columbia University Press. (Original work published the 12th century, the Kamakura era)

Uji Shūi Monogatari. (1970). In *A collection of tales from Uji: A study and translation of "Uji shūi monogatari"* (D. E. Mills, Trans.). University of Cambridge Oriental Publications, 15. Cambridge, UK: Cambridge University Press. (Original work published the early 13th century)

Utsuho Monogatari. (1984). *The tale of the cavern* (Z. Uraki, Trans.). Tokyo: Japan: Shinzaki Shorin. (Original work published the end of the 10th century)

Yamato Monogatari. (1980). *Tales of Yamato: A tenth-century poem-tale* (M. M. Tahara, Trans.). The University Press of Hawaii. (Original work published the 9th century)

Yanagita, K. (2016). *Tōno monogatari* [Tōno story]. Tokyo, Japan: Shinchōsha. (Original work published 1910)

Yokomitsu, R. (1931a). *Kikai* [Machine]. Tokyo, Japan: Hakusuisha.

Yokomitsu, R. (1931b). *Jikan* [Time]. In *Chūōkōron*, 4. Tokyo, Japan: Chūōkōronshinsha.

Yomota, I. (1994). *Manga genron* [Principles of comics]. Tokyo, Japan: Chikuma Shobō.

Yoru no Nezame. (1996). [Wakefulness at Midnight]. In *Shinpen nihon koten bungaku zensyū*, 28 [New edition Japanese classic literature collection, 28]. Tokyo, Japan: Shōgakukan. (Original work published the 11th century, the Heian era)

Zōshi, M. (1984a). Mumyozoshi introduction and translation (M. Marra, trans.). *Monumenta Nipponica*, 39(2), 115–145. doi:10.2307/2385013

Zōshi, M. (1984b). Mumyozoshi part 2 (M. Marra, trans.). *Monumenta Nipponica*, 39(3), 281–305. doi:10.2307/2384595

Zōshi, M. (1984c). Mumyozoshi part 3 (M. Marra, trans.). *Monumenta Nipponica*, 39(4), 409–434. doi:10.2307/2384574

APPENDIX

Table 2. Narrative Genre System: Tentative Version

1. Narratives as Works in the Narrow Sense or Works in the Narrow Sense in Which Narratives Appear (or Narratives Are Included)					
語り物 [Katarimono (Storytelling)]	声曲 [Seikyoku]				
	平曲 [Heikyoku]				
	物語僧の談義 [Conversation by Monogatariō (Narrative priest)]				
	盲御前の語り物 [Katarimono (Narration) by Mekuragozen]				
	合戦談 [Kassen dan (Battle Stories)]				
	本地物 (寺社縁起) [Honjimonō (Jishaengi)]				
	幸若の舞の本 [Kōwaka no Mai no Hon]				
	説教節 [Sekkyōbushi]	門説教 [Kado Sekkyō]			
	浄瑠璃 [Jōruri]	お国浄瑠璃 [Okuni Jōrui]			
		奥浄瑠璃 (仙台浄瑠璃) [Oku Jōruri (Sendai Jōruri)]			
		早物語 [Haya Monogatari]			
		てんぼ物語 [Tenpo Monogatari]			
	清元 [Kiyomoto]				
	常盤津 [Tokiwazu]				
	講談 [Kōdan]				

continues on following page

Table 2. Continued

	祭文 [Saimon]	説教祭文 [Sekkyō Saimon]			
		でろりん祭文 [Derorin Saimon]			
		おしら祭文 [Oshira Saimon]			
	浪花節 [Naniwabushi]				
	能狂言 (の語り) [Nō Kyōgen (no Katari (Narration))]				
	絵語り [Egatari]	屏風絵 (歌) [Byōbu-e (Byōbu-uta)]			
		絵解き [Etoki]			
		紙芝居 [Kamishibai]			
	落語 [Rakugo]				
小説 (・狭義の物語) Shōsetsu (Novels, Stories, Narratives in a narrow sense)]	(狭義の) 物語 [Monogatari (Narratives) in a narrow sense]	歌物語 [Uta Monogatari]			
		仮名日記 [Kananki]			
		長編物語 [Chōhen Monogatari (Long Narratives)]			
		短編物語集 [Collection of Tanpen Monogatari (Short Stories)]			
		擬古物語 [Giko Monogatari]			

continues on following page

Areas of Narratives or Narrative Genres

Table 2. Continued

		御伽草子 [Otogi-zōshi]				
		歴史物語 [Rekishī Monogatari (Historical Stories)]				
		説話物語 [Setsuwa Monogatari]		仏教説話集 [Collection of Bukkyō Setsuwa]		
		軍記物語 [Gunki Monogatari]				
	江戸小説 [Edo Shōsetsu (Novels)]	仮名草紙 [Kana-zōshi]		教訓書 [Kyōkunsho (Didactic Writings)]		
				旅行記 [Ryōkōki (Travel Diaries)]		
				娯楽書 [Gorakusho (Entertainment books)]		
				キリシタン物 [Kirishitan-Christian-mono]		
		浮世草子 [Ukiyo-zōshi]		好色物 [Kōshoku-mono]		
				町人物 [Chōnin-mono]		
				武家物 [Buke-mono]		
				雑話物 [Zatsuwa-mono]		
				八文字屋本 [Hachimonijiyabon]		
				気質物 [Katagi-mono]		
		洒落本 [Syarebon]				
		黄表紙 [Kibyōshi]				
		読本 [Yomihon]				
		合巻 [Gōkan]				

continues on following page

Table 2. Continued

				滑稽本 [Kokkeibon]					
				人情本 [Ninjobon]					
	近・現代小説 [Modern and Contemporary Shōsetsu (Novels and Stories)]			戯作文学 [Gesaku Bungaku]					
				政治小説 [Seiji Shōsetsu (Political Novels and Stories)]					
				観念小説 [Kan'nen Shōsetsu (Ideological Novels and Stories)]					
				深刻小説 [Shinkoku Shōsetsu (Serious Novels and Stories)]					
				悲惨小説 [Hisan Shōsetsu (Miserable Novels and Stories)]					
				写実主義小説 [Shajitsushugi Shōsetsu (Realism Novels and Stories)]					
				硯友社文学 [Ken'yūsha Bungaku]					
				自然主義文学 [Shizenshugi Bungaku (Naturalism Literature)]					
				私小説 [Watakushi Shōsetsu (I-Novels)]					

continues on following page

Areas of Narratives or Narrative Genres

Table 2. Continued

			心境小説 [Sinkyō Shōsetsu]			
			耽美主義小説 [Tanbishugi Shōsetsu (Aestheticism Novels and Stories)]			
			史伝 (歴史小説) [Shiden, Rekishi Shōsetsu (Historical Biography, Historical Novels and Stories)]			
			理想主義文学 [Risōshugi Bungaku (Idealistic Literature)]			
			新感覺派文学 [Shinkankakuha Bungaku]			
			新興芸術派 [Shinkō-geijutsu-ha]			
			近代派 [Kindai-ha]			
			プロレタリア文学 [Proletarian Bungaku]		ナツブ派 [NAPF-ha]	
					文芸戦線派 [Bungei-sensen-ha]	
			左翼文学 [Sayoku Bungaku (The Left Literature)]			
			肉体文学 [Nikutai Bungaku]			
			風俗文学 [Fūzoku Bungaku]			

continues on following page

Table 2. Continued

				戦後派小説 [Sengo-ha Shōsetsu]					
				大衆小説 [Taishū Shōsetsu (Popular Novels and Stories)]					
				中間小説 [Cyonkan Shōsetsu]					
				中国の小説 (翻訳) [Chinese Shōsetsu (Novels and Stories) (Translation)]					
				欧米の小説 (翻訳) [Western Novels and Stories (Translation)]					
				その他各国の小説 (翻訳) [Other Countries' and Areas' Novels and Stories (Translation)]					
				和歌 [Waka (Classical Short Songs)]					
				連歌 [Renga (Linked Short Songs)]					
				漢詩 [Kanshi (Chinese Poems)]					
				俳諧 [Haikai, Haiku]					
				狂歌 [Kyōka]					
				川柳 [Senryū]					

continues on following page

Table 2. Continued

歌謡 (詞) [Kayō (Shi, Uta) (Song (Lyric))]	近・現代詩 [Modern and Contemporary Shi (Poems)]	象徴的ロマン詩 [Shōchōteki Roman Shi (Symbolic and Romantic Poems)]			
	近・現代俳句 [Modern and Contemporary Haiku]				
	短歌 [Tanka (Modern Short Poems)]				
	呪文 [Jumon (Spell)]				
	託宣 [Takusen]				
	叙事的叙情文学 [Jōjiteki Jojō Bungaku (Descriptive and Lyrical Literature)]	祝詞 [Norito]	宣命体の祝詞 [Semmyōtai no Norito]		
			上奏体の祝詞 [Jōsōtai no Norito]		
	古代歌謡 [Kodai Kayō (Ancient Songs)]	宣命 [Semmyō]			
		長歌 [Chōka (Long Songs)]			
		短歌 [Tanka (Short Songs)]			
		旋頭歌 [Sedōka]			
		叙景歌 [Jokeika]			
		伝説歌 [Densetsuka]			
		東歌 [Azuma-uta]			
		防人歌 [Sakimori no Uta]			
	神楽 [Kagura]				
	催馬羅 [Saibara]				

continues on following page

Table 2. Continued

東遊の歌 [Azumaasobi no Uta]					
風俗 [Fuzoku]					
仏教歌謡 [Bukkyō Kayō (Buddhist Songs)]	声明 [Syōmyō]				
	和讃 [Wasan]				
	漢讃 [Kansan]				
今様 [Imayō]	雑歌 [Hinauta]				
	雑芸 [Zōgei]				
宴曲 [Enkyoku]					
謡曲 [Yōkyoku]					
平曲 [Heikyoku]					
小歌 [Kouta]	隆達小唄 [Ryutatsu Kouta]				
三味線歌謡 [Syamisen Kayō]	箏曲 [Sōkyoku]				
	踊歌 [Odoriuta]				
	浄瑠璃 [Jōruri]	半太夫節 [Handayū-bushi]			
		河東節 [Kato-bushi]			
		外記節 [Geki-bushi]			
		大薩摩節 [Ōzatsuma-bushi]			
		中節 [Chu-bushi]			
		豊後節 [Bungo-bushi]			
		常磐津節 [Tokiwazu-bushi]			

continues on following page

Table 2. Continued

演劇・戯曲 文学 Engski and Gikyoku Bungaku [Literature of Plays and Dramas]	欧米の歌謡 [Western Songs]	(芸術) 歌曲 (リート) [(Artistic) Songs (Leids)]			
		ポピュラーソング [Popular Songs]			
		ジャズ (ボーカル) [Jazz (Vocal)]			
		シャンソン [Chanson]			
		ロック [Rock'n'roll]			
		民謡・俗謡 (各国) Min'yo, Zokuyō [Folksongs, Popular Songs (Various Areas)]			
	原始劇 [Genshi-geki (Primitive Dramas)]	歌垣 [Utagaki]			
		神楽 [Kagura]			
		祝詞 [Norito]			
	伎楽 [Giraku]				
	舞楽 [Buraku]				
	散楽 [Sangaku]				
	田楽 (Dengaku)				
	猿楽 [Sarugaku]				
	能 [No]	腕能物 [Wakino-mono]			
		修羅物 [Syura-mono]			
		鬺物 [Mage-mono]			
		尾物 [O-mono]			

continues on following page

Table 2. Continued

				夢幻能[Mugen-nō]					
				現在能[Genzai-nō]					
				民話能[Minwa-nō]					
				口語能 [Kōgo-nō]					
				現代衣装能[Gendai-isyō-nō]					
				ステージ能[Stage-nō]					
				円形劇場能[Enkei-gekijō-nō]					
				照明能[Syomei-nō]					
				大名狂言[Daimeyo-kyōgen]					
			狂言 [Kyōgen]	小名狂言[Syōmyō-kyōgen]					
				太郎冠者狂言[Tarōkajja-kyōgen]					
				婿女狂言[Mukojo-kyōgen]					
				鬼山伏狂言 [Oniyamabushi-kyōgen]					
				山家盛頭狂言[Yamagazato-kyōgen]					
				集狂言 (雑狂言) [Aisume-kyōgen (Zatsukyōgen)]					
			文楽 (人形浄瑠璃) (丸本) [Bunraku (Ningyō Jōruri) (Maruhon)]	金平浄瑠璃[Kinpira-jōruri]					

continues on following page

Table 2. Continued

		世話物[Sewa-mono]			
		時代物[Jidai-mono]			
	歌舞伎 [Kabuki]	阿国歌舞伎[Okuni-kabuki]			
		女歌舞伎[On-na-kabuki]			
		若衆歌舞伎[Wakasyu-kabuki]			
		野郎歌舞伎[Yarō-kabuki]	元禄歌舞伎[Genroku-kabuki]		
			生世話物 [Kizewamono]		
		離れ狂言[Hanare-kyōgen]			
		続き狂言[Tsuzuki-kyōgen]			
		物真似狂言づくし [Monomane Kyōgen Zokushi]			
		元禄期写実劇 (和事) [Genroku-ki Shajitsugeki (Wagoto) (Realistic Dramas)]			
		手負事 [Teoi-goto]			
		怨霊事[Onryō-goto]			
		荒事 [Aragoto]			
		丸本歌舞伎[Maruhon-kabuki]			
		生世話物[Kizewamono]			
		白浪物[Siranami-mono]			

continues on following page

Table 2. Continued

		活歴 [Katsureki (Modern Realistic Historical Plays)]			
	近・現代演劇[Modern and Contemporary Theater Dramas]	壮士芝居 [Sōshi-sibai]			
		新派 [Shinpa]			
		新国劇 [Shinkokugeki]			
		新劇 [Shingeki]	翻訳劇[Hon'yakugeki]		
			自由劇場での演劇 [Jiyū-gekijō deno Engeki (Dramas)]		
			築地小劇場での演劇 [Tsukiji-syōgekijō deno Engeki (Dramas)]		
		軽演劇 [Kei-engeki (Light Dramas, Theatres)]			
		大衆演劇 [Taishū Engeki (Popular Dramas, Theaters)]			
		職場演劇[Syokuba Engeki]			
		アンダグラ・前衛演劇 [Angura, Zen'ei Engeki (Underground Dramas, Avant-garde Dramas)]			
	舞踊劇 [Buyōgeki]	神楽 [Kagura]			
		舞楽 [Bugaku]			
		能 [Nō]			
		歌舞伎 [Kabuki]			

continues on following page

Table 2. Continued

		レビュー [Revue]	エクストラヴァザンガ [Extravazanga]	
			日劇レビューショー [Nihigeki Revue Show]	
		バレエ [Ballet]	クラシックバレエ [Classical Ballet]	
			モダンバレエ [Modern Ballet]	抽象バレエ (絶対バレエ) [Abstract Ballet (Absolute Ballet)]
				ダンス組曲 [Dance Suite]
	音楽劇 [Ongakugeki (Music Dramas)]	歌舞伎 [Kabuki]		
		歌劇 (オペラ) [Kageki (Operas)]	帝劇オペラ [Teigeki Opera]	
			浅草オペラ [Asakusa Opera]	
			宝塚少女歌劇 (宝塚歌劇) (Takarazuka Syōjo Kageki (Takarazukka Kageki))	
			松竹歌劇 [Shōchiku Kageki]	
			日劇ダンシングチーム ショー [Nihigeki Dancing Team Show]	
			欧米のオペラ [Western Operas]	オペラ・セリア (正歌剧) [Opera Serial]

continues on following page

Table 2. Continued

			縁起験記類[Engi-gengi-ru]						
			御伽草子類[Otogi-zōshirui]						
			雑類[Zatsu-ru]						
			屏風 繪(歌)[Byōbu-e (Byōbu-uta)]						
		絵語り[Egatari]	絵解き[Eitoki]						
			紙芝居[Kamishibai]						
		日本画[Nihonga (Japanese Paintings)]							
		油彩画[Yusaiga (Oil Paintings)]							
		漫画 Manga [Cartoons, Comics]	政治漫画[Seiji Manga (Political Cartoons)]						
			風俗漫画[Fūzoku Manga (Customs Cartoons)]						
			風刺漫画[Fūshi Manga (Caricature Cartoons)]						
			家庭漫画[Katei Manga (Household Cartoons)]						
			ニュース漫画[News Manga (News Cartoons)]						
			子供漫画[Kodomo Manga (Children's Cartoons)]						
			劇画[Gekiga (Comics with Realistic Narrative)]						

continues on following page

Table 2. Continued

			ギャグ漫画 [Gag Manga]				
			S F 漫画 [SF Manga]				
			ミステリー漫画[Mystery Manga]				
			ナンセンス漫画[Nonsense Manga]				
映像芸術・娯楽 [Eizō Geijutsu and Goraku (Picture Arts, Picture Entertainments)]	映画 [Eiga (Movie, Film, Cinema)]	映画 [Eiga (Movie, Film, Cinema)]	非劇映画[Hi-gekiteiga]	ニュース映画[News Eiga (Newsteels)]	記録映画 [Kiroku Eiga (Record Films)]	ドキュメンタリーフィルム (映画) [Documentary Eiga (Films)]	
					文化映画 [Bunka Eiga (Culture Films)]	科学映画 [Kagaku Eiga (Science Films)]	
					美術映画 [Bijutsu Eiga (Art Films)]	教育映画 [Kyōiku Eiga (Education Films)]	
					教材映画 [Kyōzai Eiga (Education Material Films)]	セミ・ドキュメンタリー [Semi-documentary Films]	

continues on following page

Table 2. Continued

	喜劇 [Kigeki (Comedy Films)]					
	喜活劇 [Kikatsugeki (Comedy Action Films)]					
	犯罪活劇 [Hanzai Eiga (Crime Action Films)]					
	恐怖映画 [Kyōfu Eiga (Horror Films)]					
	スリラー [Thriller Eiga]					
	探偵物 [Tanpei (Detective-mono)]					
	ニューロティック映画 [Neurotic Films]					
	空想科学映画 [Kusō Kagaku Eiga (Science Fiction Films)]					
	ポルノ映 [Poruno Eiga (Pornography Films)]					
	扇動・宣伝映画 [Sendō Senden Eiga (Agitation and Propaganda Films)]					
	文芸映画 [Bungei Eiga (Literary Films)]					
	現代劇 [Gendageki (Contemporary Films)]					

continues on following page

Table 2. Continued

				時代劇 [Jidaigeki (Historical Films)]		
				ナンセンス喜劇[Nonsense Kigeki (Comedies)]	アジャパー喜劇["Ajapa" Kigeki (Comedies)]	
			アニメーション映画 [Animation Eiga (Films)]			
			漫画映画 [Manga Eiga (Comic Films)]			
			ビデオ映画 [Video Eiga (Movies)]			
			ビデオドラマ [Video Drama]			
放送芸術・娯楽 [Hoso Geijutsu, Goraku (Broadcasting Arts and Entertainments)]	テレビ [Television]		テレビドラマ [Television Drama]			
			アニメーション [Animation]			
			ノンフィクション [Non-fiction]			
			教養娯楽番組 [Kyōyō Goraku Bangumi (Culture and Entertainment Programs)]			
	ラジオ [Radio]		ラジオドラマ [Radio Drama]			
			ノンフィクション [Non-fiction]			

continues on following page

Table 2. Continued

随筆・随想・エッセイ [Zurhitsu, Zuisō, Essay]									
音楽 [Ongaku (Music)]	欧米の音楽 [European and American Music]		クラシック音楽 [Western Classical Music]						
			交響詩 [symphonic Poems]						
			交響曲 [Symphonies]						
			協奏曲 [Concertos]						
			独奏曲 [Solo]						
2. Narratives as Works in the Broad Sense or Works in Which Narratives Appear (or Narratives Are Included)									
広告・宣伝 [Kōkoku, Senden (Advertisements, Publicities, Propagandas)]	政治的宣伝 [Seijiteki Senden (Political Propagandas)]								
	広告 (商業的宣伝) [Kōkoku (Shōgyō-teki Senden) (Advertisements (Commercials))]		看板広告 [Kanban Kōkoku (Signboards)]						
			口頭による客引き広告 [Kōtō ni yoru Kyakuhiki Kōkoku (Touting)]						
			印刷引札 [Insatsu Hikifuda (Flyer and Handbill)]						
			出版物の広告 [Shuppanbutsu no Kōkoku (Book Advertising)]						

continues on following page

Table 2. Continued

				新聞広告 [Shinbun Kōkoku (Newspaper Advertising)]			
				雑誌広告 [Zasshi Kōkoku (Magazine Advertising)]			
				ポスター [Poster]			
				ダイレクトメール [Direct Mail]			
				ネオンサイン [Neon Sign]			
				テレビ広告 [Television Kōkoku (Television Advertising)]			
				ラジオ広告 [Radio Kōkoku (Radio Advertising)]			
				PR [Public Relations]			
				交通広告 (中吊り広告) [Kōtsu Kōkoku (Nakazuri Kōkoku) (Transportation Advertising)]			
				折込み広告 [Orikomi Kōkoku (Inserted Flyers)]			
				カレンダー広告 [Calendar Advertising]			
				パッケージング広告 [Packaging Kōkoku (Advertising)]			
歴史 [Rekishī (Histories)]	物理的存在 (物質) の歴史 [Histories of Physical Existences (Objects)]			地球の歴史 [Histories of the Earth]			

continues on following page

Table 2. Continued

		宇宙の歴史 [Histories of the Universe]				
	生物的存在の歴史 [Histories of Biological Existences]	動物の歴史 [Histories of Animals]				
		植物の歴史 [Histories of Plants]				
		生命の歴史 [Histories of lives]	進化論 [Shinakron (Evolution Theory)]			
	人間の歴史 [Human Histories]	国家の歴史 [Histories of Nations]				
		地域の歴史 [Local Histories]				
		文明や文化の歴史 (Histories of Civilizations and Cultures)	文明史 [Histories of Civilizations]			
			文化史 [Histories of Cultures]	宗教史 [Histories of Religions]		
				政治史 [Political Histories]		
				学術史 [Academic Histories]	科学史 [Histories of Sciences]	
					医学史 [Histories of Medicines]	
					文学史 [Histories of Literatures]	
				芸術史 [Histories of Arts]	美術史 [Histories of Fine Arts]	

continues on following page

Areas of Narratives or Narrative Genres

Table 2. Continued

									音楽史 [Histories of Music]
									建築史 [Histories of Architecture]
									芸能史 [Geinōshi (Genō Histories)]
									生活史 [Life Histories]
			個人の歴史 [Personal Histories]		伝記 [Denki (Biographies)]			偉人伝 [Ijinden (Biographies of Great Men)]	
			組織や集団の歴史 [Histories of Organizations and Social Groups]		自伝・自叙伝 [Jiden, Jijoden (Autobiographies)]			自分史 [Jibunshi (Personal histories)]	
					社史 (企業の歴史) [Shashi (Histories of Companies)]				
					自治体の歴史 [Histories of Municipalities]			市史 (都市の歴史) [Shishi (Toshi no Rekishi (Histories of Cities))]	
								町史 [Choshi (Histories of Towns)]	
								村史 [Sonsshi (Histories of Villages)]	
報道 [Hodo (News)]	新聞報道 (記事) [Shinbun Hodo (Kiji) (Newspaper Reports (Articles))]	事件報道 (記事) [Jiken Hodo (City News Reporting (Articles))]							
		政治報道 (記事) [Seiji Hodo (Political Reports (Articles))]							

continues on following page

Table 2. Continued

			経済報道 (記事) [Keizai Hōdō (Economic Reports (Articles))]			
			芸能報道 (記事) [Geinō Hōdō (Geinō Reports (Articles))]			
			スポーツ報道 (記事) [Sports Geinō Hōdō (Reports (articles))]			
			文化報道 (記事) [Bunka Hōdō (Cultural Reports (Articles))]			
			科学報道 (記事) [Science Report (article)]			
			生活報道 (記事) [Life Report (article)]			
			社会報道 (記事) [Social Report (article)]			
	テレビ報道(Television News)		ニュース・報道番組 [News, News Program]	事件報道 (放送) [Jiken Hōdō (City News Reporting (Broadcasting))]		
				政治報道 (放送) [Seiji Hōdō (Political Reports (Broadcasting))]		
				経済報道 (放送) [Keizai Hōdō (Economic Reports (Broadcasting))]		

continues on following page

Areas of Narratives or Narrative Genres

Table 2. Continued

記録 [Records]	訴訟 (裁判) 記録文 [Litigation Records, Court Records]						
	ビジネス文書 [Business Documents]	企画書 [Kikakusho (Proposals)]					
		業務報告書 [Gyōmu Hōkokusho (Business Reports)]					
		経営事例 [Keiei Jirei (Business Cases)]					
		作業・業務日誌 [Sagyō Nisshi, Gyōmu Nisshi (Work Diaries, Business Diaries)]					
	調査 [Chōsho (Survey Reports)]	刑事調書 [Keiji Chōsho (Criminal Records)]					
		事故調書 [Jiko Chōsho (Accident Statements)]					
		カルテ (医療調書) [Kaite (Iryō Chōsho) (Medical Records)]					
	日記 [Nikki (Diaries)]	個人 [Personal Diaries]	手帳メモ [Techo, Memo (Notes)]				
		育児日記 [Ikuji Nikki (Childcare Diaries)]					
	日誌 [Nisshi (Work Diaries)]	作業・業務記録 [Sagyō Kiroku, Gyōmu Kiroku (Work Records, Business Records)]	学校 [Gakkō (School)]				
			企業 [Kigyō (Companies)]				

continues on following page

Table 2. Continued

学術 [Gakujutsu (Sciences)]	論文 [Ronbun (Papers)]	自然科学 [Shizen Kagaku (Natural Sciences)]			
		技術・工学 [Gijutsu, Kōgaku (Technologies, Engineering)]			
		医学 [Igaku (Medical Sciences)]			
		数学 [Sūgaku (Mathematics)]			
		人文 (科) 学 [Jinbungaku, Jibun Kagaku (Humanities)]			
		社会 (科) 学 [Shakai Kagaku (Social Sciences)]			
		芸術 [Geijutsu (Arts)]			
	理論・方法論 [Riron, Hōhōron (Theories, Methodologies)]	自然科学 [Shizen Kagaku (Natural Sciences)]			
		技術・工学 [Gijutsu, Kōgaku (Technologies, Engineering)]			
		医学 [Igaku (Medical Sciences)]			
		数学 [Sūgaku (Mathematics)]			
		人文 (科) 学 [Jinbungaku, Jibun Kagaku (Humanities)]			

continues on following page

Table 2. Continued

		社会 (科) 学 [Shakai Kagaku (Social Sciences)]				
		芸術 [Geijutsu (Arts)]				
3. Narratives as Social and Emergent Phenomena in Which Narratives Appear (or Narratives Are Included)						
噂 [Uwasa (Rumors)]						
伝承文芸 [Densho Bungei (Oral Traditions)]	呪術的祭式 [Jujutsuteki Saishiki (Shamanic Rituals)]					
	諺 [Kotowaza (Proverbs)]					
	唱えごと [Tonaegoto (Chants)]					
	謎 [Nazo (Mysteries)]					
	命名造話 [Meimei Zōwa (Naming Stories)]					
	童言葉 [Warabe Kotoba (Child Rimmings)]					
	神話 [Shinwa (Myths)]	世界創成神話 [Sekai Sosei Shinwa (World Creation Myths)]				
		世界形体神話 [Sekai Keitai Shinwa (World Forming Myths)]				
		太陽神話 [Taiyō Shinwa (Solar Myths)]				

continues on following page

Areas of Narratives or Narrative Genres

Table 2. Continued

			神々の伝説[Kamigami no Densetsu (Legends of Gods)]				
			歴史の伝説ないしは歴史を背景とする英雄伝説[Rekishiteki Densetsu, Rekishi wo haikai to suru Eiyū Densetsu (Historical Legends, Historical Hero Legends)]				
			呪術信仰的伝説[Jujutsu Shinkōteki Densetsu (Legends of Magical Belief)]				
			宝物伝説[Hōmōtsu Densetsu (Treasure Legends)]				
			民間語源的伝説[Minkan Gogen Densetsu (Etymologic Legends)]				
			笑話 [Shōwa (Funny Stories)]				
		昔話 (説話) [Mukashibanashi (Setsuwa) (Folktales (Folkloric Stories, Tales)]	動物説話[Dōbutsu Setsuwa (Animal Tales)]			動物葛藤説話[Dōbutsu Katto Setsuwa (Animal Conflict's Tales)]	
						動物分配説話[Dōbutsu Bumpai Setsuwa (Animal Distribution's Tales)]	
						動物競争説話[Dōbutsu Kyōsō Setsuwa (Animal Competition's Tales)]	

continues on following page

Areas of Narratives or Narrative Genres

Table 2. Continued

							難題婚説話[Nandaikon Setsuwa (Difficult Marriage Tales)]
							誕生説話 [Tanjō Setsuwa (Supernatural Birth Tales)]
							到富説話 [Cifu Setsuwa (Tales of Fate)]
							呪宝説話[Juhō Setsuwa (Tales of Magic Objects)]
							兄弟譚[Kyōdaitan (Tales of Brother's or Sister's Conflict)]
							隣の爺説話[Tonari no Jiji Setsuwa (Tales of Neighbor's Conflict)]
							大蔵の吝説[Okura no Kyaku Setsuwa (Tales that a Visitor Gives a lot of Money)]
							継子譚 [Keishi(Mamako) tan (Tales of the Conflict between Parent and Child)]
							異郷説話 [Ikyō Setsuwa (Tales of Strange Worlds)]
							動物報恩説話[Dobutsu Hoon Setsuwa (Animal's Repayment Tales)]
							逃さん説話[Tōzan (Chōzan) Setsuwa (Escape from Ogre Tales)]

continues on following page

Table 2. Continued

						愚かな動物説話 [Orokana Dobutsu Setsuwa (Foolish Animals Tales)]	
						人と狐説話 [Hito to Kitsune Setsuwa (Man and Fox Tales)]	
					笑話 [Shōwa (Funny Stories (Tales))]	愚人譚 [Gujintan (Fools and Numskulls Tales)]	
						誇張譚 [Kochōtan (Exaggeration Tales)]	
						狡知譚 [Kochitan (Tales of Wisdom)]	
						狡猜譚 [Kōkatsutan (Tales of Cunning)]	
					世間話 [Sekenbanashi (Chats)]	都市伝説 [Toshi Densetsu (Urban Legends)]	
民謡 [Min'yō (Folk Songs)]	田唄 [Tauta]						
	田植唄 [Taeuta]						
	庭唄 [Niwauta]						
	麦つき唄 [Mugitsukiuta]						
	稲こき唄 [Inekokiuta]						
	地つき唄 [Jisukiuta]						
	歌垣 [Utagaki]						
	山唄 [Yamauta]						
	船唄 [Funauta]						

continues on following page

Table 2. Continued

	船御唄 [Funagouta]					
	大漁祝い唄 [Tairyō Iwaiuta]					
	馬方唄 [Umakatauta]					
	牛方唄 [Ushikatauta]					
	木遣り唄 [Kiyariuta]					
	座敷唄 [Zashikiuta]					
	酒盛り唄 [Sakamoriuta]					
	嫁入り唄 [Yomeiriuta]					
	祭り唄 [Matsuriuta]					
	盆踊り唄 [Bon'odoriuta]					
	童唄 [Warabeuta]					
	子守り唄 [Komoriuta (Nursery Rhymes)]					
	遊ばせ唄 [Asobaseuta]					
	遊戯唄 [Yūgiuta]					
	毛鞠唄 [Kemaruta]					
	お手玉唄 [Otedamauta]					
	正月さん [Shōgatsusan]					
政治的・社会的神話 [Seijiteki Shakaiteki Shinwa (Political and Social Myths)]	イデオロギー [Ideologies]					

continues on following page

Table 2. Continued

	政治教義 (ドグマ) [Seiji Kyōgi (Political Doctrines, Dogmas)]				
	人種の神話 [Jinshuteki Shinwa (Racial Myths)]				
	起源的神話 [Kigen Shinwa (Myths of World's Origin)]				
民俗芸能・伝統芸能 [Minzoku Geinō, Dentō Geinō (Folk Performing Arts, Traditional Performing Arts)]	神楽 [Kagura]	出雲流 [Izumoriyū]			
		伊勢流 [Iseryū]			
	舞楽 [Bugaku]	延年 (の舞) [En'nen no Mai]			
	仕事の舞 [Shigoto no Mai (Dance for Work)]				
	田楽 [Dengaku]	田遊び [Taasobi]			
	風流 [Fūryū]	太鼓踊 [Taiko Odori (Dram Dances)]			
		獅子踊 [Shishi Odori (Lion Dances)]			
		念仏踊 [Nenbutsu Odori]			
		さんさ踊り [Sansa Odori]			
		なにやとや [Naniyatoya]			
		おしまこ踊 [Osimako Odori]			
		おけさ踊 [Osake Odori]			

continues on following page

Table 2. Continued

祭礼 [Sairei (Festivals)]	稲作に関する祭 [Inasaku ni kansuru Matsuri (Rice Festivals)]	田植祭 [Tae Matsuri (Rice Cultivation Festivals)]			
		田楽 [Dengaku]			
		田遊び [Taasobi]			
		追な [Tsuna]			
		鬼火形 [Onbigata]			
	戦いを目的とする祭 [Festivals Aimed at Fighting]				
	死者の魂を呼び迎えて鎮定する祭 [Festivals to Welcome Soul of the Dead]				
	集団の繁栄祈願 [Prosperity Prayers of the Group]	豊漁 [Hōryō (Huge Fishing)]			
		商売繁盛 [Shōbai Hanjō (Thriving Business)]			
		雨乞い [Amagoi (Begging for Rain)]			
儀式 [Gishiki (Rituals)]	雅楽 [Gagaku]				
	舞楽 [Bugaku]				
	冠婚葬祭 [Kankonsōsai (Family Ceremony)]	結婚式 [Kekkonshiki (Wedding Ceremony)]			
		葬式・葬礼 [Sōshiki, Sōrei (Funeral)]			

continues on following page

Table 2. Continued

4. Narratives That Invade Real Phenomena or Real Phenomena in Which Narratives Appear (or Narratives Are Included)			
対話・会話 [Taiwa, Kaiwa (Dialogue, Conversation)]			
事件・出来事 [Jiken, Dekigoto (Incidents, Accidents, Events)]	犯罪 [Hanzai (Crimes)]		
	社会的行動・出来事 [Shakaiteki Kōdō (Dekigoto) (Social Behaviors, Social Events)]	政治的行動・出来事 [Seijiteki Kōdō (Dekigoto) (Political Behaviors, Political Events)]	革命 [Kakumei (Revolutions)]
			クーデター [Coup d'états]
		社会的行動・出来事 [Shakaiteki Kōdō (Dekigoto) (Social Behaviors, Social Events)]	戦争 [Sensō (Wars)]
			抗議運動 [Kōgi Undō (Protest Movements)]
			示威行動 (デモンストレーション) [Jii Kōdō (Demonstration Behaviors)]
イベント [Events]	スポーツイベント [Sports Events]	スポーツ祭典 [Sports Saiten (Sports Festivals)]	オリンピック [Olympics]
			パラリンピック [Paralympics]
			国際選手権大会 [International Championships]
			国内選手権大会 [National Championships]

continues on following page

Table 2. Continued

				記念碑 [Kinenhi (Monuments)]			
				建造物 [Kenzōbutsu (Buildings)]			
				歌 [Uta (Songs)]			
				音楽 [Ongaku (Music)]			
				旗 [Hata (Flags)]			
				飾り付け [Kazaritsuke (Decorations)]			
				彫像 [Chōzō (Statues)]			
				ユニフォーム [Uniforms]			
				芸術的意匠 [Geijutsuteki Ishō (Artistic Designs)]			
				英雄の物語や歴史 [Eiyū no Monogatari ya Rekishi (Hero's Stories and Histories)]			
				儀式 [Gishiki (Ceremonies)]			
				祭典 [Saiten (Festivals)]			
				大衆のデモンストレーション [Mass Demonstrations]			
				社会的イベント [Shakaiteki Event (Social Events)]	入学式 [Nyūgakushiki (Entrance Ceremony)]		

continues on following page

Table 2. Continued

				卒業式 [Sotsugyōshiki (Graduation Ceremony)]				
				入社式 [Nyūshashiki (Company Entrance Ceremony)]				
				創立記念式典 [Sōritsu Kinen Shikiten (Foundation Commemoration Ceremony)]				
				成人式典 [Seijin Shikiten (Coming of Age Ceremony)]				
5. Narratives as Human Physiological and Psychological Natural Phenomena or Human Physiological and Psychological Natural Phenomena in Which Narratives Appear (or Narratives Are Included)								
夢 (睡眠中) [Dream (sleeping time)]								
夢想・白昼夢 (日常的) [Musō, Hakuchūmu (Nichijōteki) (Dream, Daydreaming (Everyday))]								
妄想 (病理的) [Mōsō (Byōriteki) (Delusions (Pathological))]					統合失調症に伴う妄想 [Tōgōshichōshō ni tomonau Mōsō (Delusions of Schizophrenia)]			
					躁鬱病に伴う妄想 [Soutsubyō ni tomonau Mōsō (Delusions of Manic Depressive Psychosis)]			
					パノイアに伴う妄想 [Delusions of Paranoia]			

continues on following page

Table 2. Continued

	その他精神病に伴う妄想 [Delusions of Other Psychosises]					
	不安神経症 (パニック障害) に伴う妄想 [Fuan Shinkeishō (Panic Shogai) ni tomonau Mōsō (Delusions of Anxiety Neurosis (Panic Disorder))]					
	強迫神経症に伴う妄想 [Kyōhaku Shinkeishō ni tomonau Mōsō (Delusions of Obsessive-compulsive Neurosis)]					
	その他神経症に伴う妄想 [Delusions of Other Neurosises]					
	薬物による妄想 [Yakubutsu ni yoru Mōsō (Delusions by Drug)]					

continues on following page

Chapter 3

Narratology and Post-Narratology

ABSTRACT

This chapter describes the narratology or post-narratology that synthesizes and develops various narrative-related studies, including previous narrative research, narrative and narrative generation studies in the broad sense, and, of course, previous narratology and literary theories. This chapter studies various narrative studies in the broad sense and then studies and surveys narrative and narrative generation studies in a more narrow sense. Further, dependent on these backgrounds, the author surveys the fields of narratology and literary theories. On the other hand, as a cultural approach, this chapter refers especially to Japan's literature. In summary, dependent on the above topics, this chapter presents the concept of post-narratology, the expanded literary theory in the author's previous term.

INTRODUCTION

This book explores new possibilities and directions of narrative-related technologies and theories, as well as their implications for the innovative design, development, and creation of future media and contents such as automatic narrative- or story generation systems; this exploration is carried out through interdisciplinary approaches to narratology that are dependent on computational and cognitive studies. The term “post-narratology” in this chapter reflects its exploration of a new narratology.

DOI: 10.4018/978-1-5225-9693-6.ch003

Copyright © 2020, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

The previous book by the author (Ogata & Akimoto, 2019) presented the concept of post-narratology in detail and, in particular, described “the narratology of narrative generation,” which is a direction in the author’s post-narratology. Dependent on this previous book, this chapter revises and expands from different perspectives the content to position organically post-narratology as a part of an integrated approach to narrative generation. For a brief summary of concept of post-narratology, refer to the introductory section in Chapter 1 (Ogata, 2019) in Ogata and Akimoto (2019).

As stated in Chapter 1 in the above referenced book, the author has co-authored, edited, and published five books in Japanese and English (Ogata & Kanai, 2010; Ogata & Akimoto, 2016, 2019; Ogata & Asakawa, 2018a; Ogata, Kawamura, & Kanai, 2018). These books revealed the plans for a new research system and use various, different-but-similar terms in their discussion, such as “informatics of narratology,” “informational narratology,” “cognitive and computational approaches to narratology,” and “content generation.” Moreover, the title of this book is *Toward an Integrated Approach to Narrative Generation: Emergent Research and Opportunities*. The term post-narratology is intended to synthesize the above terms or concepts.

In **FROM NARRATOLOGY TO POST-NARRATOLOGY**, the author discusses a development from previous narratology to post-narratology based on five viewpoints, **Narrative as Multiple Communication**, **Narrative as Simulation**, two types of Transpositions, **Constructive Transposition and Informational Transposition**, and **Institutional Perspective**.

The next section is **THE DETAILED CONSIDERATION OF NARRATIVE GENERATION FOR POST-NARRATOLOGY**. In Ogata (2019), the author divided the basic components of a narrative into story, narrative discourse, and narrative representation, based on previous narratology and literary theories. The Integrated Narrative Generation System (INGS), which will be described in detail in Chapter 1 in the sequel (Ogata, in press), also uses the basic generation phases and mechanisms for story generation, narrative discourse, and narrative representation, which correspond to the higher level’s modular division of the system, including many of the modules from the lower level. In contrast, this chapter, based on the description in Ogata (2010b) regarding the macro architecture of a narrative generation system as a multiple synthesis, states the macro process of a narrative generation system in detail from another viewpoint from a previous paper (Ogata & Asakawa, 2018b). A “narrative generation system” is a unified framework

for the comprehensive processing of diverse narrative phenomena and the “multiple narrative structures model” (one of the first paper is Ogata (1997, 2000)) is a basic concept for the purpose. A narrative generation system is realized as a narrative generation mechanism in which narrative processing from micro levels to macro levels organically and spirally move by the linkage. The complex structure of narrative generation is divided into several concrete hierarchies that represent lower level narrative generation systems.

Next section, **NARRATOLOGICAL THEORIES AND RESEARCH TOPICS IN POST-NARRATOLOGY: CONTINUITY AND CUTTING IN NARRATOLOGY**, through more detailed description of the related researches in this study, considers the need for existing narratology and literary theories—which means narratological researches in the broad sense and includes a wide range of areas of human, social, and natural sciences—to develop the literary and narrative foundation of post-narratology (to ensure continuity with the previous field of narratology and, at the same time, separate it from the old tradition of narratology and narrative).

FROM NARRATOLOGY TO POST-NARRATOLOGY

For the author of this paper, narrative generation systems are the realization of a new narratology, and the process of their conceptual and technical construction is at the same time the process of constructing narratology itself. This chapter discusses narrative generation systems under five main headings concerning the fundamental thought of narratology: **Narrative as Multiple Communication**; **Narrative as Simulation**; the transposition of both, namely “production transposition” and “information transposition”; and **Institutional Perspective**. In addition, this section is based on the chapter of “The Basic Idea of My Narratology” of Ogata (2010a).

Narrative as Multiple Communication

Fujii (2004) does not see the origin of narrative in spiritual power (“*mono*” in *monogatari* that means narrative in Japanese), as Shinobu Orikuchi (1887-1953) does, but rather seeks it in the discourse of dialogue—that is, in the author’s words, he sees the opportunity for dialogue to be transformed into story in the differentiation and multiplicity of the narrator. He presents the example of the circumstances of a conversation between mother and child, in which the mother (putting herself in the position of the child) takes on

the child's role in speaking to the child using the first person. This real-life example illustrates the multiplicity of the narrator, in the sense that a single narrator is differentiated into multiple virtual narrators (in role and function), illustrating the multiple nature of the narrator. In a narrative, the narrator and narratee are not substantive realities, but can be called "agents" in that they are entities determined by their roles (functions) and the information surrounding them. By referring to interactive discourse as communication, and the functional differentiation of the narrator (or narratee) multiplicity and multiplexing, it is possible to seek a single property of a story in multiple communication. Multiple communication is different from the singular communication of daily conversation in which there is a direct confrontation between sender and receiver, in that the actual narrator and narratee are functionally differentiated into multiple roles.

Within the framework of narratology, the scholars who have categorized the question of the multiplicity of the narrator (and narratee) as abstract are Wayne Booth (1921-2005) (1961) (the "implied author" etc.) and Gérard Genette (1917-1992) (1972) ("voice"). Genette spoke in voice about the problem of positioning between the narrator recounting the events and the narratee, hinting at the phenomenon of the indirect connection between the two and their differentiation and multiplication. As Ueda and Ogata (2004a, 2004b) have shown, we can explain the phenomenon of differentiation that goes along with the multiplication of the story world based on the logical possibilities of the voice, based on how narrator and narratee are positioned within space and time. Furthermore, Mikhail Bakhtin (1895-1975) (1984) predates Genette in chronological terms, but he used examples of polyphony and counterpoint to dramatically reveal and extend our understanding of multiple communication in narrative. The author who should have been enshrined as the central narrator entity instead retreats from the single function of the narrator, and moreover, from the process that denies its apperceptive function; instead, the characters described in the work emerge with the same authority as the narrator and narratee. Bakhtin's model of multiple communication can be one foundation of the pluralism and pluralistic narrative generation (to be discussed in Chapter 4), and it contains the power to shake up the formal organization in narratology of the narrator-narratee model, its orientation to the potential for simple control. This concept functions as a mechanism for controlling the complexity of a narrative, while also giving rise to a kind of uncertainty and fluctuation in narrative generation, and with these multiple meanings it can be one of the basic ideas of narrative generation systems.

The author has sought to model in a unified way various problems of communication between the narrator and narratee in a narrative from the viewpoint of differentiation and multiplication, and development at the narrative generation level, in other words together with progress from simple dialogue to novelistic, systematic forms and the like, and to conceptualize as a multiple narrative structure model both the aspect of temporal complication of differentiation and multiplication, and the spatial aspect of the coexistence of multiple narrators and narratees within a text.

The term “development” here does not include its qualitative implications. For example, in a story about a private conversation, in the process of the differentiation of a single narrator entity into several, a complex and rich text is produced; there are also situations in which, in the systematic narrative generation of a large social organization, the function of many entities (as participants) is integrated into a single narrator, and an extremely simple story is spun. In the latter case, it seems rather rare that participants as individual entities each become single narrators, or that the multiple functions of a narrator are separated out; and whether or not the largeness of scale of the production of subject is directly connected to the richness of narrative production itself is based on other factors.

The multiple narrative generation model attempts not only to find multiplicity within one piece of text, but also in the narrative production mechanisms that range from the personal to the systematic, institutional, social, cultural, and the like, examining the degree of difference between the multiplexing of the narrator and narratee in the properties of a narrative generation mechanism. In this ideological scheme, the author intends to realize the coexistence of integrated narrative generation and the dynamics that disrupt it. In other words, the multiplicity of narrator and narratee makes it possible to coherently proceed from the level of personal narrative generation to the organizational and social level, while at the same time one of the author’s challenges is how to realize the constant fluctuation and movement that occurs due to the multiplicity of narrator and narratee converging in the narrative generation mechanism.

Narrative as Simulation

Next, the author would like to consider several issues from the point of view of narrative as a type of simulation.

Simulation is when a certain subject is expressed with a limited number of characteristics, and through their interaction the behavior of the object is

artificially simulated, and we can consider ways of simulating that the human, social state of a narrative (including perhaps nature as well). In particular, the temporal development and spatial expansion of the interaction between the personal (characters) and the environment (society and nature) is a means of carrying out thick simulation. This thickness does not refer simply to detail, but is connected to the problem of multiple communication, which surely spills over through the opportunity that is the narrator. In narrative, in addition to story, or rather beyond it, the dimension of discourse is important, and the narrator uses the diverse functions of those who carry the discourse, or of the mediator between story and discourse. The narrative embodies discourse that explicitly or implicitly strongly involves the narrator, and accordingly, narrative as simulation juxtaposes the thickness not only of the content of events, but also the thickness of the mechanisms of language. There are various types of what is commonly referred to as simulation, such as scenario simulation, management simulation, simulation in the natural world, and so forth. In the sense that the narrator opportunity comes to the foreground (-should, -must be) in this way, the narrative that simulates the author is original and unique. Moreover, if we think about it in terms of the special characteristics of multiple communication, the concept of the narrator within the narrative is differentiated into the actual narrator (author) and the fictional narrator that appears within the narrative (a type of character), and the like. The discourse possesses a complex character that is realized through this convergence, and in some cases. It can also happen that the special characteristics of the narrator such as uncertainty, ambiguity and multiplicity can completely obscure the concrete nature of the simulation of events.

From this perspective, we can think about the simulation character of narrative in various ways. For example, suppose that a narrative in the form of a story requires objectivity; even if there is pseudo-objectivity borrowed from the position of the narrator as described above, this situation in fact generally corresponds to description of human beings, society, or nature. The narrative in particular is a high-level consciousness shift regarding the situation of the description that reveals the implicit situation, structure and mechanism in all descriptions, and leads us to within range of the problem of reality, events, and the construction and building of a world that is beyond the framework of a certain description. A narrative is formed amidst the conflict between what is expressed being actualized through expression, and what is expressed is being created through its expression. The kind of attachment in narratology to the problematic between narrative content and narrative discourse looks more like a kind of interaction than classification, and we can interpret it that

classification itself possesses a kind of internal dynamic. Furthermore, as the author mentioned above, the discursive character of narrative in a broad sense is complicated by the differentiation and multiplexing of the narrator and narratee.

Also, the degree or character of simulation is different depending on the narrative genre. Newspaper coverage, reportage and nonfiction, as well as history, are narratives, and these naturally incorporate the complex nature of simulation, yet literary narratives, particularly the “novel,” represent a high-level change of consciousness regarding the narrative, and it is an extraneous mechanism that simulates the story itself. The author compares the novel and history in a very extreme or simple way, as follows. History generally configures and explains specific time periods in terms of a causal chain, rather than merely a chronological chain of events. In many cases, the narrator constructs this based on a certain ideology or worldview, so historical narratives strongly tend to have a unified, integrated direction and character. Even when organizations or systems are depicted as being in conflict with individuals, movement at the individual level and patterns at the collective level, and certain forms of their relationships, will be fairly robustly maintained. Of course, there are novelists who also adhere to certain ideologies, but at least they retreat to the background in the text, and in the novel, the authority to speak is dispersed among the fictional narrator and characters, which gives rise to the practice of pluralistic narrative generation. Also, in a novel, individual subjectivity and emotion naturally possess a great power that is allowable within a role in the world of the narrative. The plurality of narration caused by the collision of these elements brings about a fluctuating movement, and the story does not become fixed and concluded in one conclusion or direction. In this way, the narrative as simulation in the novel appears to be extremely complex.

Another theme can be derived from the study of the novel as simulation. The novel, as “*shōsetsu* (小説: small story or novel),” not “*taiseisu* (大説: large story or novel)” in Japanese, sometimes pushes to the forefront negative characters such as rebels, losers, failures, and deviants against the legitimate, and when the novel is compared with history, and to speak daringly, it is latent in the background, implying a non-institutional group of narratives. In “Inner and outer rhetoric” (Morita, 2007), as a problem belonging to an area that transcends the rhetorical domain of the discursive nature of the narrator, there is probably an outer path, or it is something that is absorbed into the limits of the problem of the discourse of the placed where the narrator stands. In any case, it is certain that some kind of ideology is involved here. For example, for the author this ideology or theme may be connected to considerations

concerning a visual illusion such as a nation or “Japan,” but in any case, rhetorical forms like multiple communication or narrative simulation are external; and this does not necessarily mean narrative content in the narrow sense, but rather something like precipitation through the repetition of the internal events of formal rhetorical movement, and it springs forth from the external part encountered in that sense.

Transposition (1): Narratology as Production and Narrative Generation System

The author’s goal is to actualize narratology as a narrative generation system, so it goes without saying that this project necessitates a transposition of traditional narratology.

The first point is a transposition from an analytical and hermeneutical direction to a production-oriented direction. The achievement of the great founders of narratology had a very strong model organization orientation, which probably contained the potential for development of generation and production, but in its successive phase, the practical application of textual analysis and interpretation has become mainstream. Together with the trends of acceptance theory in literary research and the flourishing of cultural studies, as the reading comprehension, analysis and interpretation of texts becomes mainstream within literary research, narratological research too coexists with other schools and has come to be considered as one tool for textual interpretation. Of course, the logic and practice has been established that interpretation and acceptance are at the same time acts of projection. For example, acceptance theory implies that the active interpretation on the receiver side is halfway a productive act; that is, acceptance is brought into the category of production, and according to this logic, in the end, in doing the opposite of what its name suggests, acceptance theory has contributed to the expansion of the authorial nature. What the author wants to say here is different—rather, that it is literally an act of production. Looking at the origins of this idea, narratology is connected to the genealogy of rhetoric, or it was envisioned with the aim of the present revival of rhetoric. For Genette (1972), the fundamental concept of narratology is explicitly the work of reviving this kind of literary tradition. Vladimir Propp (1895-1970) (1968) held that dependent morphology too was a field of study whose main theme was the search for the morphogenesis of plants and animals, a generative way of thinking that tended toward generation. From this perspective, narratology was an endeavor originally focused on production, and production-oriented.

In that sense there is a view in which it is not necessary to deliberately emphasize transposition; narratology later fundamentally came to be treated as one method of literary comprehension and acceptance.

In narratology as transposition, it becomes possible to organically, systematically and subtly put together productive knowledge through the work of configuring, designing, and implementing a narrative generation system. Its knowledge sorting can and must be organized in a way that goes beyond the level of traditional classification systems and human instruction manuals. In addition, a “narrative generation system” is not merely a mechanism at the level of a device for sentence generation, but also encompasses problems at the level of organizations and systems, and the production and generation of social structures; in that sense, it also contains the range of cultural theory.

Furthermore, if we suppose that there is acceptance at the end point of generation, and generation assumes and puts this into practice, then generation systems include acceptance systems and interpretation systems. In the operational models of AI and cognitive science, acceptance and interpretation are also processes that internally generate certain kinds of knowledge structures. In this way, narrative generation systems are consistent in capturing narratives in terms of generation and production.

As stated above, production in this case is different from production in the sense that an author writes a novel. The operations of sorting methods and knowledge for production too—unlike what is assumed in the case of a novelist, who directly refers to and applies them in the act of production, here the purpose is for them to function in an integrated way within a narrative generation system. There are various degrees in the position and role of the narrative generation system in this sense, but if we consider both extremes, one extreme is a form in which a (human) writer clearly exists, and in the act of production the narrative generation system is a form in which externalized methods and knowledge seem to refer to writing-like consciousness and methods; while at the other extreme is a form in which the (human) writer does not exist, and the narrative generation system itself becomes the writer. We can assume that among these there are various degrees. Hori (2007) is working on systematizing theories and applications of one of the creative activity support systems, the variations in the first form where there is a kind of collaboration between human author and system. When someone wants to write a novel, how do we position and utilize a narrative generation system? In terms of AI research, the author will touch upon the question of how to establish creative activity support within a narrative generation system.

From another point of view, a narrative generation system condenses and systematically organizes the various methods and knowledge acquired as a result of narrative analysis, and uses it for production activities at various levels, as discussed above, so we might call it a “production system with built-in criticism.” Therefore, whether it functions indirectly through the author or more directly, production activity is a kind of criticism, and that which is produced is endowed with a character of criticism. The criticism that a system provides can be an important issue in the consideration of questions of production support and creative activity support in narratives and literature.

Transposition (2): From Narratology as Informatics to Expanded Literary Theory

Since the production-oriented transposition outlined above is realized more directly as a computer program that serves as a “narrative generation system,” this narratology is based on informatics, information theory and technology (especially AI and cognitive science), and the fusion of literary and narratology methods, and denotes the transposition of narratology as information. From the author’s point of view regarding narratology as a whole, however, he has aimed to bring a greater and more complex meaning to this field, including not only information but also various other ideas and intentions, a project he has referred to as “expanded literary theory” (Ogata, 2002a, 2002b, 2014; Ogata, Imabuchi, & Akimoto, 2014, etc.). In speaking of “expanded,” however, narratology first originated as a dramatic expansion beyond the realm of texts in the narrow sense as the object of literary research, and in terms of methodology it has achieved an expansion in the sense of deepening literary analysis using methods of microscopic internal analysis and interpretation, so it can also be said that narratology itself is already an expanded literary theory. Therefore, the author’s approach might be called “expanded expanded literary theory.”

In any case, the expanded nature of the author’s narratology must be supported at the same time by methodological consistency and uniformity, but it is a narrative generation system, and in conferring the theoretical possibility of narrative construction through information technology, or the possibility of simulation, it integrates knowledge and techniques across various levels of narrative and literature as a production and generation technology. Also, the knowledge and techniques of narrative and literature referred to here are not only meant for texts such as literature or narrative, in the narrow sense such as novels (certainly the latent condensed intentionality of that orientation

is strong), but also includes other diverse aspects, such as those related to nonfiction narrative and literature, organizations such as social groups, and pragmatic production mechanisms such as social systems and institutions. It is also supported by the consistent methods of the expanded narrative generation system. In this way, it ranges from narrative analysis and social development systems to application in literature in the narrow sense, such as the novel; but due to pragmatic (engineering) constraints of the narrative generation system, it has not been widely disseminated.

Now, if the information aspect is emphasized and this idea is interpreted in a superficial way, it may be that the author's research will end up being classified as a way of approaching scientific narratology or literary theory, or narratology or literary theory with a scientific purpose. It seems there was a time period when narratology was perceived as a scientific methodology (or one that made that its goal), as when Roland Barthes (1915-1980) (1975a) calls this a "science of literature," and Propp's claims of morphological methods; regarding this scientific orientation of literature, the author recalls most strongly the basic theme of Hippolyte Taine's (1828-1893) literary criticism as the objectivist grasp of the author, and Émile Zola's (1840-1902) (1880) experimental approach that were influenced by his work; Sōseki Natsume's (1867-1916) (2007) literary theory in which he analyzed literary works by means of a few basic concepts; and the research on literary language conducted by Takaaki Yoshimoto (1924-2012) (1965). Although in its own description of itself it has no scientific character, it may be said that the thought of the "pure novel" theory of Riichi Yokomitsu (1898-1947, 1986) also takes on a scientific hue. There is probably no doubt that these figures have had a strong impact, and the author expects there is no doubt that Zola's theory as he practiced it possessed the latent power to bridge the gaps between theory, criticism, and practice. This strong impact and expectation of effectiveness, however, do not seem to have resulted from purely analytical and rigorous science. It seems that plenty of grey area remains in the reinterpretation of theory and method, and there is an expectation of application of an ambiguous production. An analysis and theory of text is constructed based on the literary interpretations of each author, and each is applied in his own practice and made widely available to others. In that sense, more than science, this can be called an "open theory and method" for literature generation. The author expects his own narrative research and narrative generation system to be taken with the meaning and nuance described above, as narratology and literary theory that has a scientific dimension.

On the other hand, in recent years, this type of actual approach is not a scientific literary theory, but it is becoming possible to approach a purer scientific literature. Representative examples are psychological and statistical approaches, and most are based on the cornerstones of AI and applied research in literature and narrative in cognitive science. In the psychological approach, there was a strong tendency to reduce literature and narrative to the generality of products of the mind and brain, or to seek their originals in the mind and brain. Extreme speech, literature and narrative are considered to be “supreme” subjects of human cognitive activity. That is, they are a challenging theme for researchers and only happen to be expressed in the form of literature or narrative; and there are plenty of cases in which those who are engaged in this type of research have no interest in or knowledge about literature or narrative. This position can be said to be oriented towards extreme generality. In other words, literature and narrative are an object to which general methods from psychology and other fields can be applied. As psychological phenomena, they have continuity with other fields. In these senses, the psychological approach merely identifies narrative and literature as one of various areas, not as a specific subject. Despite the use of the scientific method, scientific narratology is a questionable entity.

However, for example, a certain type of traditional literary research attempts to understand and interpret literary works by focusing on the (intention of the) author, and in this approach reductionist thought is evident. The idea that narratology tries to analyze narrative through its structure is also a kind of reductionist thought. What should be avoided eventually is a single reductionist way of thinking; exploring ways to maintain the plurality of narrative and literature is an important subject for the author. In revisiting this question, the author of this book thinks the significance of individual works and authors in the study of literature is significant, and it seems that various reductions exist which should always be breached in actual interpretation and production. A seemingly scientific theory about literature cannot be realized as a repeatable law or technology in which it is applied, as is the case with original science; but it seems to be the norm that it is applied in singular instances of individual acts of production. In other words, while literary and narrative research formerly tended to emphasize the individuality of the author of a specific text, and the special characteristics of the text; by contrast, in contrast to this tendency toward romantic individuality and the emphasis of special characteristics in literary research, we have proposed narratology as a more general method for example to analyze the structure and rhetoric common to various works and genres, and have sought to reintroduce generality to

literary research. Beyond these distinctions, the author's research on narrative generation, whose purpose is generation and production, displays a novel approach that combines the generality of narratology with the uniqueness of narrative generation.

In other words, the author's position is not to take up the idea of the method or knowledge that literature and narrative belong absolutely to the individual author, that they cannot be specified, that they are entirely special and individual. If literature and narrative are part of human thought and action, then it is possible to formulate various general and universal methods and knowledge about them. As in psychology (for psychologists) or neuroscience (for neuroscientists), however, phenomena such as literature and narrative are included within one part of a vast realm of generality and universality of psychology and brain mechanics. The author does not accept the idea that these are a part of the phenomena that can be described in psychological or neuroscientific terms. The author thinks that the idea of a general methodology and knowledge concerning literature and narrative should be organized around the purpose of literary execution, the production and interpretation of distinctive works. There is no conflict between generality/universality and individuality/distinctiveness. From a position of having added information to general narratology-like literary theories, the author would like to forge a path toward the construction of a generalized theory and in the direction of the construction of individual works, through a narrative generation system. In other words, from the intermediate zone called the narrative generation system, we intend to head in the directions of both generality and distinctiveness at once.

Institutional Perspective

Thinking of literature and narrative in conjunction with the concept of the institution itself is more commonplace. For narrative and literature, the author takes a view that can be called an "institutional perspective." It has become a household word among the institutional population, or on the other hand it carries an academic meaning as well as an everyday meaning, but the author does not necessarily use it (or want to use it) in an academic sense. The novelist Kenji Nakagami (1946-1992) frequently used the word "institution" in his literary discourse. In particular, he used the word "narrative institution." In general, this phrase refers to the structure of the spell of the narrative, which is unconsciously stained by the writer, and cannot be deliberately escaped.

Also, the author of this book was greatly influenced by Yukio Mishima (1925-1970) as a boy. Later the author read the latest Yukio Mishima collected works (2000-2006) in its entirety, but the concept of anti-psychologicalism and the pragmatic nature of words, the author realized anew that one cause of his affinity with the concept referred to as institutional perspective, and his attachment to the concept of familiarity, was Mishima's literature. Mishima was an incredible writer with a more direct interest in political and social institutions.

The way to discuss the institution and narrative in relation to each other is recovered in existing trends of thought concerning the philosophy of narrative, such as constructivism and historical narratology, which broaden them in terms of social, historical, and narrative concepts, and in fact there is a danger in not doing so. For the author, the institution and narrative as institution are supported by the following "feeling." The institution represents a type of utilitarian power that naturally manifests and regulates human behavior, society, and culture (that is, it positions existence as this type of existence). In that sense, it is a kind of absoluteness. On the other hand, narrative is like evidence for pragmatism.

Or perhaps the word "evidence" is not the most appropriate one since it suggests a trace left behind. The institution is the power that carries forward our thoughts and actions. Can we say that its existence can first be traced through the existence of narrative? Narrative records human thought, action, and existence in such a way that it perfectly overlaps with them, and the existence and function of institutions is first confirmed through narrative. In that sense, it is impossible to separate narrative from institution. As the author mentioned earlier on the topic of narrative as simulation, narrative must reproduce the way that human action and society is brought into existence, while at the same time its way of recounting that reveals the fundamental truth of the awareness of how human beings must perceive and understand the world. The dual acts of tracing and awareness, however, are not actually two separate mechanisms. They are separated only on the basis of words and concepts, but are united. The distinction between the story in narratology and narrative discourse seems to resemble the connection between the two. In addition, awareness here is not reduced to its psychological meaning, but is rather a concept that perfectly overlaps with the way in which human beings are manifested and expressed, and is not something that is separated from its object. In that sense narrative is a record, and should be considered as a kind of model of pragmatism in the world. The author regards narrative generation mechanisms in a figurative sense, or in more concrete terms as

“technology,” and in relation to the institution, this image is based on the fact that it has a mechanical function that is perfectly aligned with the mechanism of the institution.

For example, one kind of narrative discourse technique has the problem of “temporal sequence conversion (or transformation).” This is usually thought to be achieved through psychological mechanisms such as “recollection” and “prediction.” If we look at it in terms of the diversity and relativity of point of view and space-time structure, however, it is a problem to be considered from a physical and material point of view. Genette (1972) discusses the temporal and spatial levels of narrator-narratee in “voice,” but if we formally examine this phenomenon, it merely shows various patterns of temporal and spatial structure within narrator-narratee communication. That can be considered a different problem from how it is realized and achieved. There are many latent possibilities in this combination, as has been calculated in Ueda and Ogata (2004a, 2004b). In other words, when looking at the circumstances of a narrator, the temporal position of the narration is divided into four types: postfix, prefix, simultaneous, and inserted. The world where the narration is set is composed of two types, the inner and outer worlds. There are two types of connection between the narrator and characters, those of heterogenous narrative worlds and homogenous narrative worlds, so that in total there are sixteen possible combinations; there are a total of sixteen possibilities for the narratee as well, so when these are mechanically combined there are 256 possible combinations in total. According to a method based on realism and psychologism, the ones that can actually be applied are limited to a few, but in the science fiction genre these limits and constraints are relaxed.

The psychological method can be regarded as one of the applied forms of narrative; it can be regarded as one approach to application that is simple (although “simple psychology” holds a certain appeal, it also reflects an extreme of psychological reductionism). Today, it is an applied form of narrative that is extremely easy to understand, and easy to become uncritically dependent upon it. It can be thought of as a kind of postscript. Some parts of AI and cognitive science have often relied uncritically on simple psychologism, so many of the conventional narrative generation processes also have a strong psychological bent, with methods often based on goal-plan, script, and story schema (although the range of these theories is potentially beyond the realm of psychology). What the author is thinking about is a more pragmatic approach. The author is thinking about the possibility of assuming the communication between narrator and narratee, that which is connected to the arrangement of all within the narrative world (circumstances), and a type of

physical mechanism that expresses the narrative generation process, and the variations in circumstances and the awareness of the narrator and narratee, based on the conditions of temporal-spatial structure. The author believes that institutional perspective itself can serve as an appropriate concept for comprehensive narrative generation. From the standpoint of process and control, such an idea simply increases the potential for combinations, and psychological behavior in humans can also be regarded as examples of the inevitability of institutions; in that sense, the pragmatic idea outlined above possesses the character of breaking through institutional limitations. This is seemingly contradictory, but the feeling that it is contradictory may be due to the bias today due to a strikingly disproportionate emphasis on psychologism. The realm of pragmatic institutions is vaster. To discuss this topic, however, it is necessary to consider not only extant institutions but also institutions that could exist, or in other words the problem of institutional generation. For example, uttering the phrase “a revolution (or coup d’état) and politics of narrative generation” (or “terrorism as narrative generation,” or its opposite), on a superficial level, in a simple form, it may be showing that image, but it is not limited to that type of social institutional behavior generation.

It should be noted here, however, that the pragmatism of the institution that the author considers here is not merely figurative, but is a concept connected to something substantive, as the word suggests. The substance here refers to for example the articulation of a social institution, and though some may view it as fictional in the sense that it is a shared illusion, but neither is it merely as a psychology that has not been encoded; the author uses the term “substantive” here in the sense that it exists in society as an articulated symbol.

By the way, as an academic definition of the concept of an institution, for example Seiyama (1995), based on the idea of Kiyoshi Miki (1897-1945) in his *Logic of Conceptual Power* (1939, 1946) that the foundation of the institution as something conceptual and theoretical, describes the institution as being close to a kind of fictional idea, in which it is grasped as a system of meaning, a system of action, and a system of goods. It is an idea that emphasizes the semantic aspect that supports it, over the substantive image of the institution expressed as a social institution, and in the sense that actions and things are subsumed within a system of essential meaning, these three are not parallel, but if we dissect the concept in a subtler way, it is possible to think in relative terms about social action and social reality. When we think about the problem of narrative or literature as an institution, it is effective to distinguish these three from each other, and to see them from the standpoint of mutual relations. For example, when Nakagami (2004) calls narrative an

institution, it seems that he is referring more directly to an institution at the level of a conceptual system. Of course, not only that but the conjecture would have extended to the institution as a religious and political entity in Kumano in Japan. Yukio Mishima's acts of fundamental defeat (a defeat that he was clearly aware was a cultural idea that would leave its mark on history) at times set off in a direction oriented to social institutions, but fundamentally he adhered closely to the conceptual institution of literature. In this way, when we think of institutions in terms of individual literary figures, we must particularly consider deeply the conceptual institution, but when we look at it from the broader perspective of the question of institution generation, we can see in both literature and narrative the phenomenon of generation that relates concepts, actions, and objects. This topic will be considered through the sociological study of literature. On the boundaries of its lowest strata, practices are generating various institutions (though not necessarily intentionally). For example, even someone like the author, though the author does not have success institutionalizing at the higher strata, in a sense the author plays a part in it.

In addition, the view of narrative as a strong and powerful institution may be linked to the pragmatic organizational problem mentioned above, and there may be a way of perceiving the possibility that it can be linked to a posteriori strengthening and stabilizing of the institution. The awareness of a problem with an institution does not necessarily lead to its deconstruction, dismantling, and reconstruction. Even though the power to exert real influence may be small, however, the inquiry into the movement of thought to rigorously distinguish between awareness, permission and stabilization will surely not be in vain. The subtle differences among permanent creation, perpetual revolution, avoiding definition (or rather, definition and its denial), construction and deconstruction, simultaneous generation and destruction, and existing as a clearly different arrow altogether, the creation of circumstances—all of these sound trite, but if the author achieves the actual establishment of the acts of generation and production, then in the midst of theoretical terminology, it will be an opportunity to communicate truth.

Narrative Generation System

For the author, the construction of narratology is synchronized with the construction of a narrative generation system. To put it in extreme terms, in this research the narrative generation system corresponds to the theory of narratology itself. A narrative is a kind of cross-border concept. In response

to this cross-border concept, narratology has been a kind of movement to bring about a unified point of view, but a narrative generation system goes further as it seeks to actualize narratology in a cohesive, convergent core that synthesizes analysis and production. It is a framework for integrating the cross-border method of narrative with this cohesive, convergent method. The concrete description of a narrative generation system (INGS) will be summarized in Chapter 1 in the sequel (Ogata, in press), but as described above, the whole book is organized around a point of view that displays various aspects of the narrative generation system.

We will now touch upon the concept of literature versus the concept of narrative. Like narrative, literature is a cross-border concept. Within the framework of a narrative generation system, narrative and literature overlap and contrast with each other at certain points like the points on a fan. Narratology expands and releases outward the scope of the target text, a literary text in the narrow sense, and this is one of the foundations upon which the author has based his research; at the same time, the opposite tendency also arises, to go against the current back to the literary text. From this point of view, it is assumed that the specific output of the narrative generation system is literary text, while at the same time it is oriented toward various fields of study, actions, and practices that are at the center of literary thought. What is called “narratology,” which actualizes the narrative generation system, has expanded in the sense that what is called “literary theory” originates with the trend of movement from narrative to literature.

THE DETAILED CONSIDERATION OF NARRATIVE GENERATION FOR POST-NARRATOLOGY

In Ogata (2019), the author has divided the basic components of a narrative into story, narrative discourse, and narrative representation, based on previous narratology and literary theories. The Integrated Narrative Generation System (INGS), which will be described in detail in Chapter 1 of the sequel (Ogata, in press), also uses the basic generation phases and mechanisms for story generation, narrative discourse, and narrative representation, which correspond to the higher level’s modular division of the system, including many of the modules from the lower level.

In contrast, in this section the author describes the global process of the narrative generation system from another point of view and in greater detail,

based on the description of its general nature as multiple integration in Ogata (2010b). As the author has often said, the narrative generation system is a unified framework for comprehensively dealing with diverse narrative phenomena, and the basic concept here is the multiple narrative structures model. Processing from the microscopic layer to the macroscopic layer is linked in an organic, spiral manner, and realized as one narrative generation system. The multiple structures of narrative generation can be divided and considered in several concrete layers, and each forms a narrative generation system as a lower mechanism.

- (1) **Simple Narrative Generation System (A):** Narrative generation system as core system.
- (2) **Simple Narrative Generation System (B):** Narrative generation system as genre production system.
- (3) **Sequential Composite Narrative Generation System:** Development as *geinō* information system.
- (4) **Narrative Generation System as Institution:** Narrative generation in the broadest sense.

Below the author outlines the four layers of the narrative generation system. The concepts of technology and management of the narrative, which are described in Chapter 4, are the basis for organically joining and integrating the respective layers. Based on the multiple narrative structures model, the above (1) and (2) phases correspond to the micro-narrative generation mechanism on the personal or single narrative generation level. In contrast, (3) and (4) phases are the macro and social level's narrative generation mechanisms. They correspond to the level that collects many personal level's narrative generation mechanisms. Ogata (2019) divided the narrative generation process and the results generated into three parts, including story, narrative discourse, and narrative representation, and two types of parts, narrator & narratee and social level narrative generation, in different division not included in the above and explored the mechanisms in detail. In particular, the following topics were considered and discussed: the types of mechanisms and knowledge that are included in these parts; and how to unify the research fields of narratology and literary theories with the fields of AI and cognitive science to design and develop systems that correspond to both. In addition to the above three narrative elements, the concepts of narrator and narratee (or sender and receiver) were also prepared as the subjective level mechanisms for the actual execution of these parts. Therefore, although the following in this section also

include the description corresponding to the above basic narratological parts, the descriptive viewpoint is extended and new information is introduced.

Single Narrative Generation System (A): Narrative Generation System as Core System

The author calls the mechanism of generating a single narrative text (one unit as a piece of work) a “single narrative generation system”. This forms the most fundamental, or in other words the initial original layer in the narrative generation mechanism. Based on the degree of multiplicity of technology and operation, it is further divided into the following two: “narrative generation system as core system” and “narrative generation system as genre production system.” Looking at the multiple narrative structure, the former corresponds to the original form of narrative generation based on direct communication between the narrator and narratee. As mentioned earlier, Fujii (2004) does not identify the prototype of narrative (*monogatari*), as Shinobu Orikuchi does, in spiritual power (*mono*), but seeks it in the “discourse” of communication between narrator and narratee and its complications (for example, “legal fictions” depending on the role of the narrator, etc.). The narrative generation system as core system corresponds in this case to the level of the most fundamental discourse mechanism, as it is a concept that has an affinity with the multiple narrative structure model. On the other hand, although it is a narrative generation system as genre production system, the narrative generation system as core system is assumed to be an open narrative generation mechanism that does not make a distinction between specific genres, but is open to various possibilities; but the intention here is that it should converge in a specific genre, and be actualized as a mechanism that expands prototypical forms of communication in various ways. In any case, both refer to a mechanism for generating one unit as a narrative text, which is here referred to as a single narrative generation system.

Considering the relationship with the narrative technology, a key technology exists for the narrative generation system as core system to include story generation, narrative discourse generation, narrative development and circulation, and other functions. At this stage the system is a cluster of various narrative generation technologies meant to function prior to the form of the narrative being controlled by adherence to specific genres. In other words, it is positioned as the way things should be prior to the narrative being controlled through its management. By indiscriminately driving forward the technologies at this level, a narrative form can partially take shape, but

it is not based on intention or strategy, and in these terms, it is not based on a specific management intention. In other ways, it may be interpreted as an intentionally indiscriminate management strategy, and if we consider it to be related to an implicit and unconscious strategy, then we can say that it has a strong affinity with super-genres or meta-genres such as dreams and folktales. In the case of folktales, it would correspond to the composition of the dialogical communication referred to above, but that would not be the case with dreams. In this respect, the assumed prototypical form of narrative needs to be reconsidered, and we will pursue that work at a future date. In any case, this kind of stage is a starting point, following the process of more specific mechanisms and further macroscopic mechanisms being put into practice through the application of management strategy, in which the multiple structure of the narrative generation system is being formed. Also, this level is not narrative as a specific phenomenal form, but rather as an abstract provision of narrative generation, or a fluid state of narrative generation prior to its solidification. In the analogy of the narrative generation system, the narrative generation system as core system continues to generate a constantly fluid narrative, but that narrative is a concrete phenomenal form—the realized narrative form that is solidified by media and enclosed within the framework of a particular genre—that people can accept, which itself we do not choose. What makes the narrative acceptable to people occurs at the next stage of narrative generation system as genre production.

Single Narrative Generation System (B): Narrative Generation System as Genre Production

In contrast to the above, this step corresponds to the process of generating a narrative text (work) with a specific form that is named as belonging to a designated narrative genre, such as play, novel, movie, or advertisement.

Whereas the narrative generation system as core system already includes all the basic methods in the narrative, it is regarded as a cluster of floating technologies that, so to speak, do not yet converge into a specific structure; in the narrative generation system as genre production, the strategic mechanisms of the story, or in other words the management aspect, becomes apparent, and works as a power to fix in contrast to this floating nature, seeking to converge it around a specific narrative genre. That also means the emergence of more complex (composite) mechanisms. For example, communication and media in the narrative generation system as core system are multiplied and converged, so that the level of the stakeholder (sender) is differentiated into

individual, collective, organizational, and social. An individual narrator's principle (technology) is inherited by a narrator as a group or organization formed by a management strategy that connects multiple individuals and organizes them into one entity, so that for example, a narrative generation mechanism forms within the individual level now includes multiple narrative generation mechanisms. For example, in the case of the novel genre, in addition to the secondary mechanism of narrative generation at a personal level by the novelist, another secondary mechanism called a publisher takes shape, and through the multiple systems that form as a result, a narrative text belonging to the novel genre is created.

Here the author assumes that the narrative generation system as genre production includes several secondary systems, as follows. These however are mainly macroscopic and conceptual categories. Therefore, the module ratio of the narrative generation system (INGS) the author is developing does not necessarily overlap with the following categories. In addition, the narrative generation system as core system described above also approximately shares these segments, and in that sense it can be said that these are divisions of secondary systems as part of a whole narrative generation system. The part related to genre, however, is not shared by the narrative generation system as core system and the narrative generation system as genre production.

- (1) **Intertextual Knowledge Resource Mechanism**
- (2) **Narrative Content Mechanism**
 - (A) **Story Generation Mechanism**
 - (B) **Chronicle Generation Mechanism**
- (3) **Narrative Discourse Mechanism**
 - (A) **General Structure Narrative Discourse Mechanism**
 - (B) **Representation Meida Narrative Discourse Mechanism**
 - (C) **Genre Production Narrative Discourse Mechanism**
- (4) **Development and Distribution Mechanism**
- (5) **Narrator and Narratee Mechanism**

Intertextual Knowledge Resource Mechanism

Intertextuality is important concept for a narrative generation system. The concept itself is already so well known in the field of literature as to be used unconsciously, not only in relation to technical trends such as hypertext and WWW, but also concerning legal matters such as copyrighted texts—it has a broad theoretical and practical range of use. Genette (1982) positions

intertextuality as a part of a wider concept of “super-textuality,” and defines intertextuality as the “relationship of co-existence between two or more texts,” and “the practical existence of one text within another.”

From the standpoint of its origins in literary theory, the concept of intertextuality, Julia Kristeva (1941-) adapts the concept (Bakhtin, 1984; Kitaoka, 1998) that Bakhtin originally articulated as “vocal multiplicity” and “polyphony.” In Bakhtin’s original argument, the central idea has to do with Genette’s (1972) narrative discourse theory, in which the plural voices of narrator and characters reverberate in a pluralistic narrative structure, and which partially overlaps with the classification category of “voice” (*voix*). Here, however, the author uses the term intertextuality more directly, in the sense that Kristeva uses it as described above, and in the way that Genette expands this idea.

Broadly speaking, we can think of the intertextuality of a narrative generation system as functioning in relation to various kinds of knowledge used in narrative generation. Within this knowledge is brought together everything from characters, narrative setting, objects, and temporal division such as seasons that appear, and other elements that make up the temporal narrative world to the structure of events, and more broadly, technology for narrative generation and management. In a narrative generation system, these must exist in some organized form, and various methods can be considered to bring this about. One way is to construct this type of knowledge as intertextual. Specifically, it means to construct (reconfigure) the facts of various kinds of knowledge used in narrative generation from existing texts (dissolution). “Existing” in this case also includes texts produced by the system itself. In this way, intertextuality is a method for reconstructing the knowledge used by a narrative generation system, and in that sense it is positioned as a basic idea for building a knowledge base.

Incidentally, the term “ontology” is often used in the field of AI. Ontology is philosophical term for “theory of existence,” meaning the study if the forms of existence of various things in the world. In AI, it is connected to the question of how to organize and express existence or the target world in a way that makes possible collaboration between human beings and computers. In that sense, it draws on the genealogy of research that has been done under the name of intelligent information processing, knowledge engineering, knowledge representation, knowledge base, and so forth. For example, knowledge representation schemes such as semantic network, frames, production rules, and scripts have been well known in a previous age as textbook standards in AI. Ontology utilizes and comprehensively makes

use of these things, and research is advancing with the intention of being able to share the knowledge content designed, developed, and used separately for each individual system, which until now has been dispersed and scattered among many systems. In other words, an important implication of ontology is shared knowledge content concerning objects that can be used within many systems. Ontology includes those dealing with knowledge in a specific field, such as management strategy ontology or infectious disease ontology, and ontology with a general orientation that seeks to classify events. The generic type of ontology that deals with events is used as a standard or upper layer of expression of events within specialized fields such as management strategy or infectious disease, and they are related in this way. The consideration and modeling of knowledge of events is a central issue for narrative generation, but there are many other objects in the realm of knowledge that can be studied from the standpoint of ontology, such as knowledge of characters and knowledge of narrative discourse techniques.

One problem is how to acquire and build ontology into a narrative generation system. One possibility related to intertextuality is to predefine various frameworks of ontology in narrative generation, and obtain their specific values from text. If this method is used exclusively, however, it will be impossible to obtain elements or segments deviating from this fixed framework, and a degree of freedom in intertextuality will be lost. The construction and acquisition of the framework itself becomes a problem.

Given the above considerations, the author will consider the intertextual knowledge resource mechanism within a narrative generation system in slightly more specific terms. What is required for this subordinate mechanism is a mechanism for inputting text in some form, a mechanism for processing it in some way, and a mechanism for storing and accumulating it. Narrative content and narrative discourse mechanisms perform narrative generation processing by using stored and accumulated components of various particle sizes in actual narratives. Also, text to be processed by intertextual means are not limited to verbal texts, but also include images and music. On a different note, distinctions between superficial elements and deep elements can also be made for objects that are processed, preserved and accumulated. The former is intercepted with some granularity, as words, music, or images themselves. For example, in the case of words, it is conceivable to cut them out (process them) after applying formal element analysis and syntactic analysis; even in the case of music or images, direct extraction based on some criteria will be possible. In more direct terms, it is probably simplest to cut out and use partial or entire sentences or images.

Meanwhile, a deep element is extracted after being subjected to semantic and conceptual interpretation and analysis, including those not defined in the medium or common among the different media included. For example, an element referred to as the protagonist among the character is semantic, and will be commonly extracted in most novels and movies. Systematic examination of deep elements in this sense is a task to be carried out in the future, but from an intuitive perspective, the following intertextual elements may be mentioned:

- (1) Characters (including in some cases special characters so defined in the broad sense, such as narrator or narratee), as well as elements with specific forms such as objects and spaces (places). In specific terms characters are certainly referred to by specific names in the narrative text, but if we seek to retrieve and preserve their integrity by including their features and personality as intertextual knowledge, it is necessary to select and cut out symbolic scenes or depictions that express them, or to reconstruct knowledge through inference.
- (2) Abstract and comprehensive elements such as the world and time setting of a narrative (historical background) in general.
- (3) Elements abstracting or summarizing the development of specific stories, such as specific events and episodes.
- (4) Among these, the elements which in particular summarize the development of the entire narrative is called plots or arguments.
- (5) There is also a reorganization of the development of the entire narrative the order in which events occur, and in many cases this summary is called the story.
- (6) It is very difficult to strictly define elements called subjects or to regulate them as concrete operations, but it may be possible to set this as the smallest summary of the entire narrative.
- (7) Although we may want to think of intertextual elements as rhetorical techniques in narrative discourse such as story order conversion, viewpoint, distance, and speed manipulation, or as modality techniques, these are greatly abstracted operations of the narrative text, and without passing through them we will not be able to acquire them.
- (8) Production method at the meta-level that lurks in the background like a staging method unique to a specific narrative genre.
- (9) The author would like to add biographical knowledge about the author in this list, but this is not an element that can be acquired through the

text itself, and it would deviate from the classification here. This means that it is an element external to the appropriate text.

Furthermore, inside and outside for the story there are subtle problems. For example, if the element of place in a certain narrative in (1) is indicated by the name of the place where it exists in reality, then regarding information and reality of the place itself, how should we distinguish between them or connect them? If we can restrict intertextuality purely to the interior, and construct knowledge bases or ontologies of narrative generation completely from information extracted and obtained from the narrative text (if possible), the exterior of the appropriate narrative is not the problem; external is not a problem, but if you try to prepare other general knowledge, its content requires external knowledge.

In intertextual elements, even elements that can be directly extracted from the actual text by name, as with characters as mentioned above, are operationally identified at the level of what was once conceptualized. If this conceptual representation is constructed as a semantic network-like knowledge base with the entire narrative text as its range, the information that is likely scattered throughout the text can be acquired by searching this knowledge base.

Incidentally, in the author's narrative generation system, basically approaches to intertextuality are mainly from the side of the narrator, or from the generation side; while in literary theory, rather than pursuing aspects of acceptance and interpretation, the inclination is to try to reconstruct and expand (Tsuchida, 2000). It is certainly possible to consider intertextual processing as a concrete operation from the viewpoint of interpretation activity on the receiver side. It can also be assumed that the receiver is stimulated and inspired by specific parts or elements in a certain work and associates them with elements of another work. The elements and parts in this case, however, will be the same as those shown in the above list. In terms of intertextual processing elements, generation and acceptance share the same framework.

Furthermore, the intertextual mechanism described above can be considered from the viewpoint of multiplicity or pluralism of the narrative as follows. For the elements in a narrative that are subject to intertextual processing, we can go through elements and conceptual elements of the text itself, elements directly obtainable from the narrative text (such as words or sentences themselves), and some abstract operations to acquire for the first time elements (such as plot and story), and whether or not they can be directly obtained—based on various criteria such as microscopic elements (such as individual events) and

macroscopic elements (such as a cluster of events that forms an episode, or a theme), things of different natures exist as separate layers, and as a whole they form one system. That is, it is “multilayered (pluralistic) intertextuality.” In this narrative generation mechanism, this multilayered (pluralistic) affiliation is being established behind the narrative that is being generated, and must be realized as a knowledge base or ontological mechanism within the system as a whole.

Narrative Content Mechanism

Here narrative content refers to the events that occur in a certain narrative that has been generated, and the narrative content mechanism is a system for generating narrative content within which various kinds of knowledge are processed and accumulated through the intertextual knowledge resource mechanism described above. There is scope for thinking about this “narrative content”. In the aspect of acceptance, for example, imagine that when a reader reads a novel, this reader directly accepts the surface-level expression or narrative discourse, of the novel—restoring or constructing the narrative content within the novel, or in other words the events that are assumed to occur within it. This task is partly due to the events actually expressed in some form in the novel, partly through events that are not actually expressed in it, divided into parts that can be guessed indirectly, and through all of these tasks together, the narrative content is restored or constructed. On the other hand, if we try to imagine this process from the generation and production side, in many cases the author—while conscious of the narrative content as a whole—thinks that one part of it is actually expressed within the novel (and there are surely cases in which the reverse is true, where the author believes that in the process of expressing partial events, they form the whole picture of events in the narrative). In this way, the narrative content is information expressed in some form within the text of the narrative, and information is presumed, restored or constructed on the acceptance side. On the production side, the above activity is divided into two parts, that which plays a supporting role in the background, and the information of which the creator is conscious. Here we refer to them as subordinate mechanisms of the narrative content mechanism, called the narrative generation mechanism and the chronicle generation mechanism. To put it simply, the story is a consistent chronological structure of events that happen in succession. The author is using the word “chronicle” in contrast to “history”; while history is discourse structured as

story, a story does not have a consistent structure from beginning to end. In other words, it is intended to be simply a sequence of events in chronological order. In narratology, the term “story” usually refers to narrative content, but in this case “narrative content” and “story” are regarded as separate words and concepts. In addition, Nakashima and Ogata (2006, etc.) use the term “story world” in almost the same sense as “chronicle” is described here.

Story Generation Mechanism

The story in a narrative is the equivalent of a temporal sequence of events and an event is a unit that changes a particular state in a story. From the perspective of the narrative receiver, the receiver interprets a story based on a temporal event sequence by receiving the narrative content. Thus, a story is a mental image. Conversely, from the perspective of the narrative sender, a story can be objectively structured and symbolized as a sequence of temporal events. Here, this view situates a story as the level of symbolization.

When the author examines the story in detail from the viewpoint of narrative generation, it is divided into the following two elements: the formal aspect, i.e., the story structure and the content aspect, i.e., the story. Therefore, it is also necessary for narrative generation systems to have two types of mechanisms, including that which is used to save, use, and operate both the story structure and content. Thus, it is necessary for the story structure to consist of two types: macro story and micro story patterns. Macro story patterns correspond to the structures of paternal knowledge that comparatively define the macro structures that form the story structure and are included in various studies on aspects of narratology, such as the story structure or grammatical models by Propp (1968), Algirdas Julien Greimas (1917-1992) (1966), Gerald Prince (1942-) (1982), etc., event sequence patterns in the “world (*sekai*)” of *kabuki*, and narrative mothers (including “exploration mother” and “rival mother”).

The results of studies on motifs in the genre of folktale studies can be perceived as the knowledge used by macro-story structures. Alternatively, they are also understood as the methods that define partial knowledge to compose each folktale story. The latter means that a story is constructed through the connection of several motifs. Further, story grammar studies in AI and cognitive science are combined to the knowledge structural methods ranging from the macro to the micro level for the narrative. In contrast, the micro story patterns comprise the structural knowledge that corresponds to micro event sequences in a story and the above motifs can also be treated

as the knowledge structures of this level. For instance, scripts correspond to this level in AI and the field of cognitive science.

The first type of knowledge for defining a story structure is that which is related to the event sequence, which has several elements that include one or more characters, objects, places (stages), and times, among others. The narrative place is related to world models that define various types of worlds where a story is developed, such as the ordinary and extra-ordinary worlds, external and internal worlds, concrete and abstract worlds, objective and subjective worlds, personal and public/business worlds, and real and imaginary worlds. Each narrative character has external characteristics, such as a face and a body, and internal characteristics, such as a character, thoughts, or thinking tendencies. In many cases, an event and episode are constructed and structured through the characters' actions and the mutual relationships among them. Furthermore, a story includes physical and mental objects. Characters and objects constitute a narrative world and their elements are interconnected, finally resulting in the formation of a temporal sequence of events, namely, a story.

An event is a basic unit in a story that transitions one state to another. Conversely, an episode is a larger unit than an event and contains several events. Characters, objects, places, times, and other necessary elements are bound together in a world as one large narrative unit. In addition, the world here is different from the model of a world above. In other words, the world and its model respectively correspond to the world in both broad and narrow senses. The world was a term that was originally used in the dramaturgy of *kabuki* and consisted of a collective and organized unit of typical elements, such as characters, places, events, and objects, in each narrative group. Typical stories and episodes are also included in the world in this sense and a story has one or more themes or narratological meanings, which provide consistency for the narrative. In summary, the story upon which a narrative is based includes the following typical semantic elements: events, episodes, states, characters (including external and internal characteristics), physical and abstract objects, and various mutual relationships related to the characters and objects.

In the above, from the viewpoint of narrative generation, the following differences and relationship between formal and content knowledge are included in a narrative: formal knowledge serves as a kind of vessel for the narrative content and many content categories can be addressed within a common formal framework. For example, both motif and scriptural knowledge

can be treated in the same way based on the formal definition, as they both compose a paternal sequence of events. In contrast, diverse content knowledge units exist by corresponding to the same formal framework. For instance, it is possible to apply many content knowledge units that correspond with the formal process to operate event sequence patterns.

Thus, for the narratology of a story, it is also possible and important to add groups of folktale studies, in addition to Propp's methods, upon which the author has drawn. Propp originally presented a morphological narrative theory, which consists of a formal, abstract, and grammatical method for overseeing the concreteness and individuality in motif studies. This became one of the basic methods in narrative generation by connecting the schema and story grammar with AI and cognitive science. However, in the framework of the author's narrative generation study, it is necessary for the abstract and formal narrative grammatical knowledge to be supported by aspects in the background that provide concrete knowledge. For instance, when Propp-like story grammar corresponds to the type of story techniques employed by the author's narrative generation mechanism, concrete knowledge content is needed for its support. Interestingly, as Propp himself was originally a folklorist, the morphology he employed for folktales was an abstraction based on large amounts of folkloric data. Conversely, he collected and classified the folkloric data in several published books (Propp, 2012). The collection and classification of the folkloric data address a larger portion than the formal approach he employs in his studies. In the mechanism of the Integrated Narrative Generation System (INGGS) developed by the author, concrete or content narrative knowledge needs to be stored in the story content module. If Propp's story grammatical knowledge corresponds to formal knowledge, the folkloric motifs are equal to the level of the content knowledge. Here, each folkloric motif is considered as composed by a theme and a relatively abstract story pattern. Specifically, a motif contains main characters, including both abstract and concrete definitions, and a flow of events which includes the characters.

The following techniques, theories, and methods can be used to implement the above idea in narrative generation systems, especially INGS: story grammar or story schema, discourse theory, problem solving, planning, inference or reasoning, frame, semantic network, rule-based mechanisms, case-based reasoning, agent, ontology, natural language generation, and deep semantic processing. Moreover, neural network processing, such as deep learning, can be used in more bottom-up processing. In a rough division, symbol processing

can be used for top-down levels and deep learning processing can be applied for bottom-up processing.

Chronicle Generation Mechanism

First, what is the entirety of events that occur in the narrative? This point overlaps with the previous argument in that, from the acceptance side, the recipient constructively restores the whole with some inference involved, based on the events that explicitly take place in the target narrative. Putting together explicitly occurring events and those not explicitly occurring, and on top of that, adding information connected with those events and with things involved in those events, is the entirety of events. In this case, however, it is said that the inferred, non-explicit events depend on the recipient as psychological and interpretive entity.

For the author, however, a structural theory from the generation side is necessary. In this case, it is thought that the entire narrative content is first assumed, and one part of it is explicitly expressed in some form in the actual text. For example, if “A and B meet in Tokyo, A returns to his hometown but then returns to Tokyo, and A and B meet again” are the events that are expressed, the hidden part must also exist—such as, in this case, when A returns to his hometown, what is doing, whether in Tokyo or somewhere else. On the acceptance side, this part is left to each recipient’s imagination, but on the generation side, particularly in a narrative generation system, a stronger definition is required. For example, if the above events are recounted (linguistically) from B’s perspective rather than A’s, information on B’s side that is not directly included in this sequence of events must also be prepared (whether or not it will be necessary to use narrative generation at some point is a different operational question). Here the author refers to what is explicitly expressed in the text as the “story” and the events that occur within the world of the story, including those that are hidden from the point of view of the text, as a “chronicle.” Therefore, from the perspective of the entirety of events, or in other words the chronicle, in most cases the story illuminated only a part of it. That is, the story constitutes part of the structure of the chronicle. This is different from the question of the connection between story and chronicle, which shows that there are other latent possibilities in relation to the events that actually occur in the story, and the story actually reveals only one of them. This can be said as a problem of further application, and will be described elsewhere.

Incidentally, it is thought that some “interpretation” has already been added in focusing on a specific place in the chronicle and making apparent only that place. From this perspective, a specific event is made apparent as a way of focusing on the chronicle (method of interpretation) and it will be called a story, but who can accomplish this “focus”? Let us think about the generation process of news reporting as one specific example. First, the entirety of events that represent material to be covered within a certain area corresponds to a chronicle, and information is selected based on attention to a specific part and organized as a chain of events in what is equivalent to a story. As a generation sequence, this story is transferred to a specific narration process, namely a narrative discourse mechanism that follows the narrative content mechanism within the narrative generation process. Incidentally, within the narrative generation process, the narrative discourse is a mechanism that should be discussed with emphasis on the primary factor that it is a driving force that depends on the narrator. Even at the stage during which the chronicle is organized into a story, however, if the concept of interpretation must insert itself, then also regarding the narrative content mechanism and the problem of the narrator, it is necessary to consider approaches and relationships as narrative discourse theory problems. In addition, as the author mentioned, here there is an image of the chronicle that everything is already prepared and the story is generated through cutting out parts of it—but as the author generates the story, we can also consider the process by which he gradually constructs the background information connected to it as the chronicle. In any case, even when the problem of the narrator is brought to the fore and becomes apparent in the following narrative discourse mechanism, at the stage of the narrative content mechanism too, the problem of the narrator must be recognized.

The author will now conceptually describe several related problems here. First, the author raises the concept of “objectivity” in a story. If the elements that make up a story were events that actually occurred in it, it would be included in a category of a relatively high degree of objectivity within the relevant world of the story world. As mentioned above, however, if the story has some form of mediation by the narrator such that interpretation is involved, it can be said that the chronicle information is more objective. In this way, the objectivity of events in the world of a story is determined by their correlation with narrator’s involvement, and the idea is that objectivity increases in the order of narrative discourse, story, and chronology. Although this is only relative, it affects the processing method of the narrative generation system. For example, it is possible to describe objective information as a structure in some way, and correlate the presence or absence of influence on the form

of this structure, and thus the degree of objectivity of the process. In other words, in this case the information that transforms the form of the structure is objective information that does not participate in it; information that performs a kind of modification process can be regarded as non-objective information.

In addition, viewed from the standpoint of the story, the chronicle is a type of contextual information. In this contextual information, however, it is expressed explicitly as a story, meaning that detailed information about the characters as well as the attributes and connections of various other things, and the sequence of events explicitly expressed in the story forms a part, and can be thought of as the overall description of events within a limited range. The former is described in connection with a knowledge base and ontology (here an intertextual knowledge source mechanism), and chronological context information corresponds to the latter. From the standpoint of the story, the chronicle preserves contextual information such as time, space, and subject (characters), while conversely the chronicle becomes a story by limiting their basic range. For example, in a story at any particular point the focus is on specific characters, while other characters either do not appear, or appear in terms of temporal descriptions in the chronicle, and events relating to all characters are described in parallel all at once. In a chronicle, if we think of time as a vertical cell and characters as a horizontal cell, and further consider the chronicle to be a cube with depth, then at any given time the events concerning existing characters fill out that depth.

In this way, the narrative content mechanism consists of an interrelated story generation mechanism and chronological generation mechanism. Besides the so-called spatial relationship described above, what is important is the mutual chronological relationship in the narrative generation process, or in other words the processing sequence. If this process is simply divided into two, it is a method of performing chronology generation processing by extending the story based on the information in the story generating process; conversely, performing the chronology generation process can be thought of as a method of generating a story by focusing on a group of factors centered on a specific event sequence within it. Of course, it is possible to assume an eclectic or mixed method that interrelates the two. As mentioned above, Nakashima and Ogata (2006) express a chronicle (story world) as a static “state” that involves “doing” as one approach; the “action” mediates the transition from one active state to another as a descriptive method for the story (story line), and we have explored the idea of modeling both of these different descriptions of events and the transformative relationship between

them. In other words, the story world corresponding to the chronicle here is a group of events, while the story refers to a combination of these events.

Narrative Discourse Mechanism

Narrative discourse in the most comprehensive sense refers to what is actually expressed in the narrative itself. Therefore, it is a concept which cannot be separated from the representation media of language, images, and sound (music and other forms). From the perspective of the nature of processing and mechanism in narrative generation, however, they can be separated into a more abstract level and a more concrete level. Speaking of “narrative discourse theory,” Genette’s (1972) work and supplementary notes (Genette, 1983) are still thought to be the definitive research on this topic. What Genette considers in detail is not the problem of representation media itself (i.e., language according to this theme) in narrative, and it is certainly expressed through language, but even if it is also expressed through other media besides language, when we consider those representation media such as images, for example, if we apply this general principle, it is a problem of the relative, large-scale structure of what is actually expressed in the narrative, and a problem of the narrative discourse at a more abstract level than language, as described above. As a general tendency of so-called literary criticism, much attention is devoted to the author’s “thought,” historical background, and microscopic techniques and features within the text, and not a few studies deal with the problem of narrative discourse as the big-picture structure referred to here. In that sense, Genette’s narrative discourse theory sets a new course for literary criticism, regardless of how effectively it is utilized. The narrative discourse mechanism at such a level will be referred to henceforth as a “general structure narrative discourse mechanism,” meaning a mechanism that constitutes the structure of a story to be seen through narrative discourse itself, expressed in superficial media such as language and images; and the author will refer to the mechanism by which superficial representation media are used as a “representation media narrative discourse mechanism.” It is also possible to call the former a deep-level narrative discourse, and the latter a superficial-level narrative discourse. Furthermore, as a kind of strategic knowledge on a meta level in contrast to these two, “genre production narrative discourse mechanism” has been added. These three together constitute the entire narrative discourse mechanism.

As a simplified narrative generation process, a narrative discourse mechanism is based on the narrative content generated through the story

generation mechanism and chronology generation mechanism within the narrative content mechanism, which is converted into the structure and expression of the story as it is actually told. Although a narrative content mechanism uses various forms of pre-existing knowledge, it can be said that “generation” processing is performed in the sense that it newly creates information about an event that is an indispensable element in a narrative. On the other hand, the narrative discourse mechanism basically preserves this information, that is, without changing the narrative content itself, but reforming its expression and structure, bringing it to a superficial level that can easily be comprehended by human perception. The processing that is performed is equivalent to “transformation” in the sense that it encompasses expressive structure and the narrative content at a superficial level. Using the metaphor of music, it may be good to address the word “variation.” Or, from a more operational viewpoint, it corresponds to “conversation” of the narrative content structure. These kinds of verbal expression, however, are based on regulation of the processing sequence between narrative content and narrative, and are not necessarily appropriate. The author wrote “as a simplified narrative generation process” above because the possibilities for the mutual processing sequence of the narrative content mechanism and narrative discourse mechanism are not uniform. It is practically possible to process the narrative discourse first without assuming the existence of narrative content. For example, it is possible to have as a precedent a proposal to configure the time sequence in a narrative so that it alternates frequently between the present and the past, and the narrative content is devised later as subordinate to narrative discourse structure. In general terms, this is a problem of content priority orientation versus format priority orientation. In this case, the narrative discourse structure concerning time sequence does not achieve transformation of the existing narrative content. Therefore, the processing of the narrative discourse mechanism may also be called “generation” processing, which forms part of narrative generation as a whole when viewed within this larger framework.

General Structure Narrative Discourse Mechanism

Using media, narrative discourse is divided into abstract and structural level (or deep level), and concrete and representative level (or surface level). The former simply corresponds to a kind of story adaptation and refers to narrative components based on the composition and order of a story, the organization of events, narrative viewpoints, and tempo. This is often referred to as the plot.

However, more precisely, narrative discourse is more complex on the deep level. For example, in one case, a previously existing story is transformed into a plot. Conversely, another possible case is one in which the story is planned according to a previously existing plot. In fact, in the typical process that occurs between a story and the narrative discourse, both of the above application orders are mixed. Another interesting point is that in many cases, narrative genres are frequently defined more concretely based on the level of the narrative discourse instead of that of the story. For example, a murder event can be processed or organized as both a detective and a psychological story based on the different adaptation methods of the narrative discourse or plot generation processing. Genette (1972) first conducted narrative discourse research to systematize the narrative discourse types and techniques. However, for the design and implementation of a narrative generation system, a system of more elaborate and expanded narrative discourse techniques is necessary and possible. The author aims toward the development of such a system. In addition, the symbolic representations in narratives, such as description, explanation, analogy, and metaphor, are situated at the border between narrative discourse at its deepest level and narrative discourse on the surface level.

Genette (1972) presented an extremely systematic and comprehensive narrative discourse study of narratology. However, when we compare the theory by Genette to a possible comprehensive system of narrative discourse, the area it addresses may be part of narrative discourse theory. In an ideal comprehensive system of narrative discourse, the theory from Genette addresses narrative discourse techniques on a more micro and operational level. In particular, his theory approaches narrative techniques on a more fundamental level. Each narrative discourse technique is aligned with the method for operating an object. For instance, elements in a narrative discourse, such as “sentences of explanation” and “sentences of description,” are included on the level at which they were composed, as a result of Genette’s micro narrative discourse techniques. However, at the same time, they are also techniques for representing narrative discourse as organized sentences. Thus, at the higher level, for instance, levels of genres exist, such as the genre of a detective story. Therefore, when we try to understand narrative discourse comprehensively and hierarchically, it is divided into the following levels: the level of patterns used to define the whole of a narrative discourse structure (or the level that demonstrates genres like that of a “detective story”), the level used to define sentence representation styles in a narrative discourse (or the level which contains concepts such as “explanation” and “description”), and the level of techniques for driving actual narrative discourse processing

(such as “temporal operation”) based on Genette’s system. An actual narrative discourse is generated in its entirety by conducting, for instance, a process such as “a temporal operation,” and then executing “the use of event sentences, explanation sentences, and description sentences.” From the top-down or strategic perspective, the following sequential process is also possible: “for generating a narrative discourse in a narrative genre,” the system “arranges events, explanations, and descriptions,” and “combines and uses various narrative discourse techniques.”

As described above, although the narrative discourse theory by Genette does not necessarily cover all areas of narrative discourse, it is the most comprehensive and synthetic narrative discourse theory in both contemporary narratology and in the fields of AI and cognitive science. The main goal of this section is to systematically explain the narrative discourse theory proposed by Genette from the viewpoint of narrative generation. This is equivalent to the narrative discourse theory on the micro level. Genette’s theory is the most systematic narrative discourse study. The author has published papers related to Genette’s narrative discourse theory on its relation with the study of narrative generation (Ogata, 1999). At the same time, the author has used the theory in narrative generation systems. In the following section, the author simply presents the Genette’s narrative discourse theory and explores the possibilities of its cooperation with the narrative generation system. Of course, similar to the case of Propp, the author is not intending to claim that all narratives can be generated using this approach. However, for narrative discourse, there are no such systematic studies, comprehensive and entire study. The plan for using Genette’s narrative discourse theory adopts two directions: one is its detailed expansion, which entails connecting the theory to more concrete, operational, and procedural methods and techniques, and the other is the additional expansion, which requires the addition of new narrative discourse categories not previously included in Genette’s system.

Before beginning the technical discussion, the author would like to situate the narrative discourse theory by Genette into a larger narratological context. Previously, in narratology, a narrative generation process was examined by drawing on two approaches of story and narrative discourse. This may be related to the long tradition of the contrast between mimesis and diegesis, which dates to Plato (428/427 or 424/423-348/347 BC) and Aristotle (384-322 BC). Conversely, regarding these concepts, mimesis has traditionally held a special position. However, in the narratology and literary theory of the twentieth century, a reverse phenomenon of the overwhelming priorities of narrative discourse and story has occurred and the number of rhetorical studies

on narrative and literature has increased. Moreover, from the perspective of story, diverse studies by Propp (1968), Greimas (1966), and Claude Lévi-Strauss (1908-2009) (1964), etc. have developed in a direction that aims for the symbolic abstraction of potential narrative structures, particularly exploring the structural and cognitive characteristics in the phenomena. In contrast, rhetorical theories of narrative discourse by Bakhtin (1984), Booth (1961), and Genette (1972) have been also progressing. In the world of narratology and literary theories, these two directions have been studied and developed relatively independently and related studies have continued.

The next part describes a computational approach to Genette's narrative discourse theory and the method of hierarchical re-construction. In particular, the author has been studying the development of a comprehensive computational system of narrative discourse. Although this study is incomplete at present, it has attempted an the analysis, design, and implementation in the following order: (1) The descriptive re-construction of Genette's theory from the viewpoint of narrative generation; (2) Composition of a narrative discourse hierarchy from strategic knowledge of narrative discourse to primitive and functional knowledge of the techniques; (3) Consideration and review of problems in Genette's theory through the above (1) and (2), such as altering the system and adding new knowledge; (4) Design of a narrative discourse system; (5) Implementation of the narrative discourse system. In this stage, the above (1) and (2) will be tentatively described.

Originally, Genette's narrative discourse theory was a categorical system of narrative discourse techniques that had, as its main higher elements, temporal order, temporal duration, frequency, distance, perspective, narration, and voice. This study has expanded Genette's theory in terms of the correspondence between the structure of a narrative discourse that is transformed from a story and the methods or techniques of narrative discourse as the procedures for conducting the transformation. For example, a temporal technique means the method or technique for generating a narrative discourse that transforms its structure as an input by changing the temporal order.

Conversely, when organized as a categorical system by Genette, narrative discourse methods have a hierarchical system. Based on this hierarchy and the form, the author presented the re-organization of knowledge contents in Genette's theory. Here, the "lower structural method" is a list of the methods placed on a hierarchy that is lower than that of a focused method. The "concept" is the description of the methods' definitions. The "output (type of the discourse)" is the structure of the narrative discourse transformed by

applying this method. Additionally, narrative discourse techniques are, in many cases, defined based on the description that overlaps with the output from each technique or type of discourse. The level of techniques classified and defined by Genette is referred to as the structural techniques. Although Genette's theory is structured based on its explanation of structural techniques, the study in this chapter further classifies the techniques into cognitive effects or functions that the structural method provides to the narrative's receiver, in addition to the techniques. The narrator uses structural techniques based on a goal to accomplish these effects and functions which are newly understood from the viewpoint of the narrator's cognitive strategy. For instance, the cognitive strategy of "external analepsis" aims to complement a character's information by sharing the character's life story with the reader.

Next, techniques refer to the methods for transforming a story into a concrete narrative discourse structure. The procedural relationship of the above narrative discourse elements is as follows: a cognitive strategy is adopted to accomplish specific cognitive effects and functions for the receivers using the structural technique of narrative discourse. Subsequently, the corresponding sequence of narrative discourse techniques unfolds. Techniques are divided into cognitive and formal techniques, which are employed in addition to the above structural techniques. Conversely, a cognitive technique refers to a kind of command of the transformation from a story to a narrative discourse based on the cognitive criterion of the characters and narrator in a narrative. One example is that a character "subjectively recollects" his or her old life. Recollection or subjective recollection itself does not indicate the direct processing of a narrative structure. This cognitive technique is, for instance, made more concrete by using the formal techniques, such as "deleting" a part of a story and "inserting (introducing)" that part into another place in the story. Alternatively, formal techniques include the following: "insertion (introduction)," "deletion," "complementation," "detour," "generalization," "lack," "repetition," "integration," "description," "indication," "exchange," "abstraction," and "indirectness."

As mentioned above, this study essentially approaches the re-organized expansion of narrative discourse theory from the viewpoint of the integration of structural and cognitive levels. The structural and formal techniques correspond to the macro and micro methods used to directly operate the narrative form or structure. Conversely, the cognitive strategies and methods comprise knowledge that is based on the effects and goals included on the cognitive level of the narrator and narratees. Furthermore, one task that is necessary for transitioning the above study to the operational level is to

reconstruct the theory by positioning cognitive strategies at the highest level of the hierarchy and the formal techniques into the lowest.

Finally, the author describes issues and future plans concerning the narrative discourse theory provided by Genette. First, in Genette's original theory, because the description of strategies and techniques presented in the above are often mixed, it is necessary to revise and expand the author's narrative discourse study as narrative generation toward a more elaborate knowledge system, which includes the expansion of the framework of Genette's theory itself. For example, Genette does not provide his original categorization in the level of cognitive strategies and simply shows an ad hoc explanation as a kind of convenience for structural and formal methods as his main theme. In Genette's theory, the lower narrative discourse hierarchies are no more elaborately described than those at higher levels. As a general tendency, the formal techniques, as his lowest hierarchy, approximately correspond to the level of narrative techniques in the author's narrative generation system (Ogata, Hori, & Ohsuga, 1996). In other words, this level is strongly related to studies on the connective relations of sentences in cognitive science and discourse theory, and on this level, cognitive science and related research areas precede narratology and literary theories. Moreover, in this regard, an effective collaboration is possible between relatively macro narratology and literary theories and relatively micro cognitive science and AI fields, in addition to the above connection between narrative structure and narrative cognition levels.

Next, as Genette's narrative discourse theory was presented based on a novel which contained language, the main method was a linguistic or logical approach. However, from the analysis of connective relations among scenes or events in movies, we know that narrative discourse includes methods such as the associative relations among images, that extend beyond the logical and semantic connective relations among scenes and events. Therefore, for a comprehensive system of narrative discourse, it is necessary to introduce and unify methods, techniques, and strategies of narrative discourse at a level beyond that of logical processing.

Although the narrative discourse theory by Genette has broadly influenced literary and narrative studies, many of those studies have retained only its partial usage. Systematized attempts that expanded and elaborated the entire system did not exist previously. One of the reasons for this was that researches could not invent and develop theoretical and experimental tools for its expansion and elaboration. Post-narratology, as developed by the author, will be positioned as one approach for solving this problem.

Additionally, although narrative discourse theory corresponds to one part of narratology in a broad sense, Genette and other narratologists regarded that part of narrative discourse theory as a genre that was essentially equivalent to narratology. Particularly, narratology in the narrow sense is equivalent to narrative discourse theory, which indicates that in the context of narrative, the area occupied by narrative discourse is very wide and complex. Therefore, also from the viewpoint of narrative generation, studying this part of narrative discourse prompts the emergence of very difficult themes and problems. Many narrative generation systems have not efficiently treated the problem of narrative discourse. Alternatively, the differentiation of the story and other elements is not clearly considered. As stated above, although Genette's narrative discourse theory reveals the most systematic model developed on this aspect, it does not necessarily comprehend all of the fields that are needed to conduct a thorough examination from the perspective of narrative generation.

Finally, this study, which focuses on post-narratology or the narratology of narrative generation by the authors and the approach to narrative discourse, is currently incomplete. Although narrative discourse techniques that apply Genette's theory have been prepared, strategic methods for their application or use have not been efficiently defined. The hierarchy in narrative discourse methods, namely, the hierarchy which includes the discourse methods, an entire narrative structure, and micro methods, has not been clearly defined. Expanding the part of the narrative discourse in the narrative generation systems by the author is currently an important objective. At the same time, the author has acquired individual knowledge on narrative discourse techniques and strategies through the analysis of actual narrative genres, including novels, *mangas*, and advertisements, in addition to consideration of narratology and literary theories by Genette and other researchers. In the future, the author will integrate them into an organic system based on the system of narrative discourse to determine the entire framework for the design and development of narrative generation systems.

Representation Media Narrative Discourse Mechanism

As already mentioned, this is a generation mechanism for expressions that are to be directly accepted by the recipient, that is, surface representation media represented by language and images. On the other hand, to use comparative terms, a general structure narrative discourse mechanism produces discourse at a deep structural level. In other words, the narrative representation is the surface level of narrative discourse; it connects directly to surface representation

media, including language, image, and music and is related to various rhetorical techniques. Although this framework of narrative generation divides the narrative discourse phase into both deep and surface levels, it was originally a unified mechanism and the components were closely connected. For instance, in the methods used for description in natural language representation, the narrative discourse on the deeper of the two levels provides a macro direction or strategy by asking questions such as the following: “what is described?” or “which direction is selected for the description?”. In addition, the level of the surface narrative discourse determines how objects are described through the actual sentence representation.

In the author’s narrative generation system, the two are distinguished as follows. The discourse at a deep structural level mentioned here is described as abstract conceptual representation. Conceptual representation is a kind of formal descriptive method for expressing semantic content information. In this study, as described in detail in Chapter 1 in the sequel (Ogata, in press), the term “case grammar” is used to describe it. A narrative is basically organized around events (phenomena), and individual events are expressed as a set of subjects and other semantic roles (cases), with a focus on verb concepts. At the same time, this conceptual representation also defines the structure of the entire narrative discourse by organically integrating events as a hierarchical structure. If the elements included in individual events influence the sentence or image as an expressive unit, then they influence the overall structure as a chain of sentences or a collection of images. In processing, the narrative discourse mechanism of representation media narrative discourse receives this kind of conceptual representation, and transforms natural language text into a series of sentences, or structural components into a series of images embedded in two-dimensional space. In a narrative generation system, the descriptive form of a narrative within a narrative content mechanism uses the same form of conceptual representation, and in that sense, there is also a view that places both the narrative content mechanism and the general structure narrative discourse mechanism into one category.

What we must think about is the difference in terms of conversion between conceptual representation and conceptual expression for each type of representation media. For example, in the case of linguistic expression, in its simplest form, an almost automatic conversion from conceptual representation is possible, but this means that conceptual representation itself, or this way of thinking itself, is narrating based on a linguistic foundation. In the case of images, the situation is different. As in the case of converting the meaning of a conceptual representation event into verbal expression, however, here

we assume that the task of converting the meaning and description of an event into an image. The problem can be expressed in terms of “abstract” vs. “concrete.” The language is at first abstract and can directly express the abstract meaning of an event, but an image as visual information is more concrete, and in the conversion of the concept, in many cases it must transcend the abstract level and be materialized at a more concrete level. For example, when trying to visualize the concept of “kidnap,” we must think of it in terms of actions that have specific images, or a sequence of such images. Semantic problems related to concepts such as events, actions, and movements are in essence technologically very difficult problems. They involve the operation of dividing an action indicated as a relatively abstract target into a series of actions linked to more concrete and physical actions.

Also, in representation media such as films and other narratives, more specific music, sounds, sound effects, etc. are used, and in that sense music is a characteristic representation medium that corresponds with language and image representation media. While language can easily directly express human psychology and thought, there is a greater degree of difficulty for images to do so. While in the case of language and images, conversion is possible from the conceptual representation of narrative in which action is central, the case of music is more difficult. When we think of narrative as a representation medium, therefore, music is placed in a special position.

Music is perceived as a simple sensibility (or even as a kind of sophisticated art theory), usually regarded as expressing sensory and even emotional information, but not semantic content information. On the other hand, an overall conceptual structure exists as described above, with the same positioning as the structure of an entire chain of text (sentence) or an entire chain of images, then it can be assumed that processing associated with the structure of conceptual representation is possible for the structure of an entire piece of music, with a group of sounds constituting one unit. Also, by using a method such as a leadership motivation, we associate characters and event units with music elements such as melody, and based on rules as found in, for example, twelve-tone technique, it may be possible to add conversion techniques as well as to make conversion definitions correspond with conceptual representation. In this way, the prospect of conversion between conceptual representation and musical expression becomes obtainable. Based on this idea, the conceptual representation of narrative and a musical conversion system are discussed by Akimoto, Endo, and Ogata (2013) and Ogata and Akimoto (2007).

On the other hand, there are no systematic, comprehensive, or concrete studies regarding narrative language representation that correspond to

Genette's theory on the deep level. However, it is useful to acquire various methods and techniques from the text reader provided by the actual authors. For example, Mishima (1959) includes diverse examples concerning narrative sentences, such as the description of events, chapters, scenes, and actions. Next, except for experimental narrative discourses, both language and image representations can commonly represent a story in a narrative. This is based on a characteristic of representation media that both language and image representations can equally represent and describe an event and a state as basic units in a story.

Although there have been many computational approaches to natural language generation, only a few researches have been conducted on natural language generation that focused on narrative language. For a more fundamental approach, it is necessary to refer to studies of narrative language related to narratology and literary theories. Concerning Japanese literature and narrative works upon which the author mainly relied, there are many related books and papers, such as Natsume (2007) and Yoshimoto (1965). However, more pragmatic approaches include many references of "reader for writing" by writers, novelists, critics, and researchers. As many of the references are based on each writer's own best practices the level of systematization is low in many cases and it is difficult for readers to systematically comprehend the contents of the writing. However, each of the references includes important knowledge and utilizing them effectively is required for the fundamental progress of the research in the future. For example, Mishima (1959) divided the types of sentences into pragmatic and ornamental sentences, and the discussion's premise was that the latter should be given characterizations that were clearly different from the former. In particular, Mishima claimed that the ornamental sentence had unique characteristics. In this book, he examined literary genres, including novels and stories, scenarios, essays, and translations (chiefly novels and stories) to extrapolate the methods and techniques of description for dramatic character, nature, mental state, and action as the techniques of a sentence. One of the characteristics of this book is its inclusion of rich examples of many literary works and the selection of writers shows Mishima's taste, which revealed a love for both clarity and decorativeness. For reference, the writers (and Japanese classical works) introduced included the following (interestingly, Mishima did not examine Sōseki Natsume and other naturalist authors, who are otherwise commonly referenced):

- *Genji Monogatari* by Murasaki Shikibu (c. 970~978-c. 1019) (1993, 1994, 1995, 1996, 1997)
- *Wakan Rōeishū* [*Anthology of Japanese and Chinese Verses*] (1965)
- *Man'yōshū* (1957, 1959, 1960, 1962)
- *Heike Monogatari* (1991, 1993)
- Chikamatsu Monzaemon (1653-1725)
- Ihara Saikaku (1642-1693)
- H. C. Andersen (1805-1875)
- Ōgai Mori (1862-1922)
- Riichi Yokomitsu
- Shintarō Ishihara (1932-)
- Kyōka Izumi (1873-1939)
- Yasunari Kawabata (1899-1972)
- Motojirō Kajii (1901-1932)
- Tatsuo Hori (1904-1953)
- Ryūnosuke Akutagawa (1892-1927)
- P. Merimee (1803-1870)
- Hayao Sugi (1904-1990)
- J. W. v. Goethe (1749-1832)
- Kenji Takahashi (1902-1998)
- Mantarō Kubota (1889-1963)
- Seiichi Hunahashi (1904-1976)
- Kawatake Mokuami (1816-1893)
- Kunio Kishida (1890-1954)
- Tsuneari Fukuda (1912-1994)
- Hideo Kobayashi (1902-1983)
- Mitsuo Nakamura (1911-1988)
- E. A. Poe (1809-1849)
- Kōnosuke Hinatsu (1890-1971)
- Seiji Tanizaki (1890-1971)
- A. V. d. l'Isle-Adam (1838-1889)
- H. d. Balzac (1799-1850)
- Tōru Terada (1915-1995)
- G. Flaubert (1821-1880)
- Ryūzō Yodono (1904-1967)
- G. d. Maupassant (1850-1893)
- Mizuho Aoyagi (1899-1971)
- Jun'ichirō Tanizaki (1886-1965)
- Kōyō Ozaki (1868-1903)

Narratology and Post-Narratology

- J. P. Jacobsen (1847-1885)
- Shizuka Yamamuro (1906-2000)
- Naoya Shiga (1883-1971)
- Taijun Takeda (1912-1976)
- M. Proust (1871-1922)
- R. Radiguet (1903-1923)
- Ryōichi Ikushima (1904-1991)
- F. Mauriac (1885-1970)
- Homer (8th century BC)
- Shigeichi Kure (1897-1977)
- *Taiheiki* [*Record of the Great Peace*] (1960a, 1960b, 1961)
- Sakunosuke Oda (1913-1947)
- Aya Kōda (1904-1990)
- Kanoko Okamoto (1889-1939)
- Kyūichirō Inoue (1909-1999)
- J. Cocteau (1889-1963)
- Yoshizō Kawamori (1902-2000)
- Kenzaburō Ōe
- Mokutarō Kinoshita (1885-1945)

Movies and TV dramas are typical image genres that richly provide concrete examples and techniques for image representation. Movie critics have studied and analyzed movie and image narrative in the relationship with narratology. Further, in addition to story analyses, studies have been conducted on image representation techniques that are unique to movies. Pictures as static images are also an interesting research object to the extent that they can symbolically and concretely represent one moment in a narrative episode or scene.

Kanai (2016, 2018a, 2018b, 2018c, 2018d, 2018e) conducted a series of studies on image analysis and generation that positively introduced narratology and movie theories. In particular, movie theories are firmly established as a research field and also maintain many connections with narratology and literary theories. For example, Stam, Burgoyne, and Flitterman-Lewis (1992) relatively faithfully traces the flow of contemporary literary theories and narratology from Russian formalism to Bakhtin, structuralism, and post-structuralism and also deal with various types of narrative analyses based on structuralism, Propp, psychoanalysis, and intertextuality. At the same time, this book particularly introduces, dependent on the movie theory by Cristian Mets (1931-1993), unique punctuations different from language that are techniques for changing and moving the film; these techniques include

dissolve, fade-in, fade-out, and direct cutting. As a typical image technique that is unique to the movie, Sergei Eisenstein (1898-1948) proposed montage theory before Metz. Additionally, the author regarded the existence of the camera as a unique feature in the movie and analyzed the camera work and techniques of *Tokyo Monogatari* (Ozu & Yamamoto, 1953) by Yasujiro Ozu (1903-1963) (Ogata, Tachibana, & Tomite, 2009) in detail. Further, through the medium of the camera, the author also attempted a comparative discussion between image-related arts such as the movie, and theatrical arts such as the stage. Although Japan's Shigehiko Hasumi (1936-) studied *Madam Bovary* by Gustave Flaubert (1869) for his doctoral dissertation (the extended version is *Bovaly Fujin Ron* (Hasumi, 2014)), he has instead been known as a theorist, movie critic, and researcher in representational cultural studies over his long academic career. He has published many narratological studies. For instance, in Hasumi (1985), he criticized the direct use of story or narrative structures in novels that are like the motifs of folktales and Propp's folktale grammar and in particular, unsparingly criticized their unconscious use. The core of his basic idea was likely to establish the movie as a new style of narrative that overcomes the kind of simple story or narrative featured in novels; he published many diverse essays, papers, and books to explore the possibilities of narrative techniques unique to movies employed to overcome the narrative techniques used in novels and stories (Hasumi, 1979). One of Kanai's ultimate goals in the cognitive science theory behind the movie is also to seek out unique narrative techniques focused on the concept of "cutting events" (Kanai, 2016).

Next, concerning the relationship between musical representation and narrative, for instance, Richard Strauss (1864-1949) composed symphonic poems that represent various narratives with music, which is connected to movie music. However, the method for representing a narrative with music is different from the instance in which it is represented by language and imagery. As music cannot directly portray an event that language and image can represent concretely; music is used as the means for representing images instead of narrative content. However, researches on music using semiotics and narratology has been conducted and the author has also provided several references for applying the narrative discourse theory by Genette to automatic composition (Ogata, 1999). Further, the author also conducted a study on the analysis and usage of sound effects (Hiramatsu & Ogata, 2008). *Kabuki* also uses diverse sound effects that have fixed patterns and do not necessarily aim for realistic effects. Musical narratology is a research framework that primarily analyzes the musical structures of Western classical music according to the

logical structure of narratology. However, one pioneering researcher, Tarasti (1994), constructed a theoretical framework using the narrative theory by Greimas (1966). Tarasti (1994) and Nattiez (1999) also presented a musical semiotics. Alternatively, the author concluded that a narrative discourse theory proposing a formal model of narration is more appropriate for an analyses of musical forms and structures than story theories like that of Greimas. The author attempted to integrate a unique musical narrative discourse theory into narrative generation systems (Ogata, 1999; Ogata & Akimoto, 2007). Additionally, the application of musical narratological methods is interesting for analyzing and generating jazz and Japanese music.

The human “voice,” which is on the border between music and body representation, is also an interesting topic. Although the typical style is its expression in the form of song, a border genre of “*katarimono* (narration)” exists as a representative unified form between music and voice in Japan. The *katarimono*, narration, here refers to a representative form used to represent a narrative expressed by the voice through the melody, and in many cases, accompanied by one or more musical instruments. For instance, *Heike Monogatari* (1991, 1993) which is a representative war story in Japan, was not written originally as a story read from a book. People in the middle ages experienced the story’s narrative through a narration by a professional narrators’ group called “*biwahōshi* (*biwa* minstrel).” *Biwa* means four-stringed Japanese lute. At the same time, one development direction of the narration was the narrator’s reading of a scenario and narrative work written on paper or in a book instead of narrating in the pure style of the oral tradition passed down by narrators. This tendency revealed a complete form illustrated by the flow from *nō* and *kyōgen* to *ningyō jōruri*. *Ningyō jōruri* means Japanese puppet show and is frequently called *bunraku*. In a *ningyō jōruri* work, narrators called *tayūs* developed the narration by reading a book prepared in advance while the *shamisen* (a kind of Japanese stringed instruments) were played by musicians and the narration and *shamisen* connected with the *ningyōs*’ actions. Afterwards, this form was assimilated into *kabuki*, in which *tayūs* narrate the part of *ji-no-bun* (descriptive part) and actors speak the lines directly. One book, *Jōruri Shirōto Kōshaku* by Sugiyama Sonohian (Shigemaru) (1864-1934) (2004), who was a politician in the Meiji era, vividly narrated his experience of *jōruri* training with his teacher, and concretely explained the advanced techniques of voice in the narration of *jōruri*. One interesting point here is that, in *ningyō jōruri*, the action of *ningyō* by a *ningyō-tsukai* (puppet operator), narration by a narrator, and the playing of music by a *shamisen* player were not necessarily performed with the intention of achieving surface

harmony. Each player or actor instead tried to create a kind of intentional gap between the other players and actors. These unique styles in Japanese *geinō* have influenced the author's multiple narrative structures model.

Another media concerning narrative representation is body representation. Genres of dance and drama expose body representation. Opera and musicals are also included in this genre. Although forms of image representation such as movies and pictures also include the element of body representation, these are examples of indirect body representation. Narrating language, playing music, and operating images also have a complicated relationship with body movement. Body representation is a more direct representation method than language in the sense that it can represent an event very concretely. However, for instance, the motions of the body in Japanese dance are not necessarily used to represent an event directly. An event is symbolically and abstractly portrayed in many cases.

For example, throughout history, the tradition of dance originating in ancient Japan has been introduced into various narrative *geinōs* including *nō*, *kyōgen*, and *kabuki*. The mainstream theatrical arts in Japan have not become purely realistic plays like those of the Western tradition. Tamotsu Watanabe (1936-) (2004), who is a researcher and critic of *kabuki* and other theatrical arts, listed the following words as terms related to the body of *kabuki* actors:

- 立役 (*Tachiyaku*): Role of an honorable man.
- 女形 (*On'nagata*): Female-role player.
- 型 (*Kata*): Patterns of action, fixed state sets, etc.
- 持ち味 (*Mochiaji*): Special or distinctive ability.
- 見得 (*Mie*): Pose, posture.
- 口跡 (*Kōseki*): Theatrical elocution.
- しぐさ (*Shigusa*): Gesture.
- 蛇籠 (*Jakago*): A type of gabion.
- おこつく (*Okotsuku*): An action pattern at the *hanamichi* (stage-passage).

In Watanabe (1991), after he demonstrated a few problems with the ambiguous definition of the meaning and range of Japanese dance and the non-established methods and words of the critique, he systematically discussed various topics of Japanese dance. His book also includes discussion on aspects related to general narratology and the author's multiple narrative structures model in narrative and *kabuki*. For instance, in the above book, the actors in the dance of *nō* embody the double structures of “*yaku* (character)” and “*su*

(private person).” Further, on the stage in Japan, there is no concept by which an actor always and completely continues to become a narrative or dramatic character that the actor is playing on the stage. Another description states that a person who plays a role in the dance has three different bodies, namely, the physical body, the theatrical body, and the human body and these bodies play collaboratively and non-collaboratively with one another. In addition, *Kabuki noshintairon* (1988) provides systematic explanations of the themes related to body theories.

Furthermore, another possibility of narrative representation that differs from body representation is puppet representation, which includes a form of representation other than that involving a human body, such as a puppet. Although the author borrows this term from *ningyō jōruri*, this category contains sculpture. Recently, experiments in robotics drama have also been conducted. As a *jōruri* puppet does not possess autonomous ability and is operated by a human, it is connected to the body in motion. As the author has indicated, an interesting point related to the theories of the body in *ningyō jōruri* is that the following story was not realized after the *ningyō jōruri* works were introduced in the production of *kabuki*: as human actors became more able to perform actions that had been played by “handicapped” *ningyōs* (puppets) up until that point, the actions and bodies of the *ningyōs* were integrated into more natural and realistic actions. We can observe such phenomena to an extent. However, one performance style has appeared in which a human actor intentionally and consciously simulates the handicapped *ningyō-buri* (who performs motions like a puppet) in *ningyō jōruri* and, interestingly, such actions were frequently used in the climax scene on a *kabuki* stage. For *ningyō-buri*, very ordinary and delicate actions have been preferred by the audience over the direction of actions resulting when human actors simulate super-natural actions and motions that are unique to the puppets, such as *chūnori* (midair stunt) and hard *bakuten* (backflip). The examples above indicate that self-sufficient theories of the body exist in *ningyō jōruri* and *kabuki* and also signify that theories of the body are not necessarily applicable to the human body. Recent studies in cognitive science consider theories of the body in *ningyō jōruri* from the perspective of learning (Okui, 2015). However, in Japanese *geinō* tradition including *ningyō jōruri*, an important element is, so to speak, cultural performance styles inherited beyond personal-level techniques or psychological role-playing.

The above representation of media can be used as the combination of several forms of media or as a synthetic representation. For example, a movie is a synthesis of several representations, which include language, image, and

music. Body representation is indirect. Image representation has moving pictures as its main element. In movies, especially, image representation is probably an element that prescribes the characteristics of the genre.

In the relationships with the implementation of narrative generation systems, these are related to broad intelligent media technologies, including the generation of the surface in natural language generation, image processing, automatic composition and variation, and robotics.

Genre Production Narrative Discourse Mechanism

This means the characteristics of the above two narrative discourse mechanisms are different and carry out structure management at the meta-level. Without some kind of narrowing down and management, whether by a formation mechanism or another structure regarding narrative discourse, the material cannot assume a realistic form; it is a matter of the nature of the management. The genre of narrative is also very much a social/institutional concept; the regulation or restriction to be discussed below is decided depending on the development/distribution mechanism and an institutionally created narrative structure. Following this logic, one part of the above-mentioned structural and narrative discourse is different from the logic of development/distribution mechanisms and an institutionally created narrative structure; one can behave anarchistically, so to speak, but for that to be socially/institutionally measured, the product must wear the trappings of a specific genre. Otherwise, that narrative will most likely deviate from the socially adopted framework. It is not merely that the piece will become without genre; it will not be accepted within the protection of distribution structure and presentation medium. The structure set up here called genre directional narrative discourse structure will, in this way, likely have the largest strength from the bearing world, and so to speak, will effectively, in a reverse irradiating form, rule the overall assessment of narrative creation by distribution and institution, the so-called world framework. With strong meaning, a simple narrative generation structure mediates between upstream travel and downstream travel, so to speak. Literary and artistic, or in the case of avant garde novels, as Tzvetan Todorov (1939-2017) (1978) argued, deviation from genre or the dissimulation of genre, etc., is becoming a strong motif of production. However, for instance, societal media such as publishers and bookstores treat such works as being inside the frame of a “novel.” Otherwise, in the middle of social distribution and development structure, it will become difficult to secure physical places.

As mentioned before, genre is connected on a social and institutional level. The narration deviating from the framework of some kind of genre (it isn't received there.), will not be received socially/institutionally. Now and then, however, a new genre is created, and institutions transform or also expand. A movement like this happening depends on the so-called rising state of narrative generation. Alternatively, there are likely times when institutional change and expansion become the driving factors in creating new genres. That is connected to the authority called classification. Classification is for storing an object in a physical place like a shelf or drawer, and can be compared to a power like a physical force. It is a political science problem both directions. In any event, genre and institution interlock; genre is contained in institution; institution gives rise to genre. For example, the author is dreaming (my ideal) in the direction that says "society/institutions will not accept it." Even if the author says that, however, this too is the progress of the construction and establishment of a new society and institution, and considering it is easy to import that into a healthy narrative, caution is required.

Development and Distribution Mechanism

In the narrative generation system as core system, it was thought that words are directly exchanged through a conversation process between narrator and narratee, but in the narrative generation system as genre production, in addition to the diversification of representation media such as language, images, and music described within this mechanism, different types of media for distribution and development are emerging. In many cases, the narrative will be delivered to the actual recipient through an indirect mechanism as intermediary. This development and distribution mechanism is essentially a mechanism of communication between narrator and narratee, but it can be said to be extremely expandable.

Here the media for distribution and development include paper forms such as books, mechanical imaging devices such as photographs and movies, mechanical fixed media such as records and tapes, broadcasting forms such as radio and television, electronic network forms such as the internet on computers, electronic fixed media such as CD's and DVD's, telephones and cellular phones, and various other media. In particular, existing electronic media used through a computer are now being updated on a daily basis. Recipients can use many of these things by hand, but such is not the case with others, as with performances such as theater and other stage performances, music concerts in theaters, movie screenings at movie theaters, and music

at shops and in the street. As can be seen with various examples such as live performances and stagings in real time or exhibits at galleries and museums, “place” too can be considered as a kind of medium in which narratives are distributed and developed.

The narrative genre described in Chapter 2 is often specified in relation to the media used in the organization of this development and distribution. For example, the same image-based narrative may be shown as a film on a film device, or as a television drama shown on a television device, yet the two are categorized into different genres.

Theoretically speaking, there is a higher genre of “image narrative,” and the logical configuration of film or television drama as subordinate genres is both possible and useful; at the same time, realistically, each has its own characteristic production methods and actual social presentation, which influences both the inner composition and presentation method of the work, so it makes sense to distinguish between the genres of film and television drama. In the case of television drama and television advertising, both are image narratives, and share television as their medium, but because their purposes are different, they are intuitively and clearly classified as separate genres.

On the other hand, however, the relationship between genre and medium is complicated, and many connections between them can be observed. Film is an example in which genre accurately corresponds to medium and is labeled accordingly, but in the case of television drama, a medium called television and a conventionally existing genre called drama are fused to form a new genre, as is the case with other genres such as television news (reporting). Of course, in film there is reporting, and the expression of image-based narrative itself is unique. That is, it is like television in that the differentiation of various subordinate genres can be included within it; but in its particular inclusive character, within which it both encompasses and creates both existing media forms and new media forms, television has from the beginning had a peculiar hybridity and greed. Also, in the past it was common to show films on television, and in this way a specific medium can encompass various genres. Traditionally, paper books were representative of this type of media. The book as a medium is strongly related to the novel, which is today the typical narrative genre, but at the same time oral literature can be recorded in books, and poetry, *manga* (comics), theater and film too can be transcribed in books (in the case of scripts, they are not theater, film or drama themselves but are elements that constitute one part of them, which is different from the character of poetry or *manga*). On the other hand, like the genre of advertising which itself defines the medium, rather than ever being defined by it, there are unique genres that can be combined

with any medium. For example, objects that cannot be thought of within other genres, such as buildings, clothing, streets, and the like, normally function as advertising media. Although the novel was originally a narrative genre that rose suddenly in conjunction with the event of book publishing by means of printing technology, from the perspective of its content characteristics, it was not completely defined by this medium of the book through printing technology; *Genji Monogatari* (1993, 1994, 1995, 1996, 1997) is a novel that was passed down in manuscript form, and today it is common for novels to be read on the radio, or browsed on computers or mobile phones. These phenomena—that is, correspondence to the multimedia of a particular genre and incorporation of multiple genres by a specific medium—have been observed in the past, but in the high-speed era of technological progress today, their diversity and complexity are increasing more and more. Even if the situation seems complicated at first glance, however, if a medium holds the framework of a narrator-narratee’s form of narrative transmission and communication, then from a theoretically unified point of view, consolidation is possible.

Of course, it goes without saying that computers are emerging as a comprehensive medium that encompasses various media in place of books. Recently the terms “content” and “contents” have often been used, but this conceptualizes the aspect of information itself independent of the medium and attempts to implement it in a false manner. Through the computer (software), an idea has arisen that information itself exists transparently, without being dependent on a medium. Of course, it is a computer, however, that makes this possible, in that it has the capability to hypothesize temporarily that it is a transparent entity, while on the contrary it is a device that has an extremely robust mechanism as medium. In other words, in order to bring to the surface aspects of information itself that are independent of other media, a computer temporarily creates its own transparency by the power of a strong generic information conversion mechanism. Therefore, the following description must necessarily refuse in advance the idea of pretending to recognize the transparency of a computer, in that sense, but it is a so-called generic medium. In other words, as we push forward with the idea of the computer, development and distribution mechanisms will no longer be a constraint to define genres. In this case, it is necessary to keep in mind that the narrative content and narrative discourse of a genre must be defined by the character of the content of a narrative. What Propp (1968) attempted was a specific examination of such possibilities. If the special characteristics of the computer, however, indicate that it is part of an information conversion device, it can also be seen as a kind of rhetorical mechanism; and rather than positioning it as a means to

synthesize the traditional medium with the content as intermediary, it might be far more productive to value it as being full of latent possibilities for the creation of new narratives and content, due to its uniqueness as a rhetorical mechanism while being at the same time parallel with existing media.

Positioning and Forms of Narrator and Narratee

The term “narrator” has often appeared in this description so far. Paired with the term “narratee,” this is an essential concept for the task of narrative generation. If the narrative is a kind of discourse, and in many cases it is a convergence of discourse, the narrator and narratee are extremely essential concepts. Here the author considers narrator and narratee from several points of view. First of all, the author touches upon the question of the “intensity” of the existence of narrator and narratee at various stages of narrative generation.

In the narrative generation process, it is the level of narrative discourse that undoubtedly requires the elements of narrator and narratee, and it is a given that narrative content is the main object of narrative discourse, and is assumed to be objective existence (action) events. As mentioned above, however, at least within the story included in the narrative content mechanism and the story within the chronicle or story world, even if an event is a fact, it is selected and extracted according to certain criteria, and in that sense the narrator casts a shadow here. In this way, the narrator is ubiquitous throughout the narrative generation process. If we set forth the concept, however, of the degree of actualization of the narrator within a narrative, the strength of its presence differs depending on the stage of narrative generation. The narrator in narrative discourse (or against narrative discourse) is more conspicuous than the narrator in narrative content, and among narrative contents, the narrator in a story is more conspicuous than the narrator in a chronicle. Also, according to the multiple narrative structure model, a distinction is established between the single vs. the collective narrator, and these are differentiated according to multiple layers of hierarchy of narrative generation. The single narrator is a narrator that can be simulated by a single individual, while a collective narrator is regarded as a group or organization that contains multiple individual units. The nature of the multiple layers of hierarchy of narrative generation can be said to be the differentiation of these narrator forms. Regardless of the strength of the narrator’s presence, however, its function is the same in any layer.

Next, there is the problem of how to position narrator as a specific mechanism within the narrative generation system. Originally, the narrator is a specific force to generate and manipulate the substantive expressive structure of the story; but when a narrator is not differentiated within an entire narrative generation system, it is possible to organize it without necessarily making clear the level of the narrator. At the stage of seeking to define in detail as a system the conceptual model described above, the narrator tends to be an obscure and ambiguous concept. In our attempt to implement a “narrative generation system” to date (specifically in INGS), the narrator has not attained a clear position. It is not the case, however, that there is no way to solve this issue. The method generally outlines the concept of the degree of intervention with the narrator’s narration, while on the other hand it composes the techniques and strategies of narrative generation in a way that does not belong to a specific narrator; as the degree of narrator intervention increases, so does the narrator’s degree of interference in some way. This is a passive method of expressing the proposition or premise that the narrator is always requested for narrative generation in a form not explicitly described. If the ubiquity of the narrator taken literally, there is also a way to set up the knowledge structure of the narrator so that it is explicitly partitioned in some way and describes knowledge for narrative generation in it. We can imagine it. In this case, furthermore, following the polyphonic theory of Bakhtin (1984), if we consider narrators to be like multiple voices in narrative generation (which is also related to the multiple narrative structures models of the author); beyond the narrator as a so-called integrated image as described above, each of the subjects including “characters” and “author” has the qualifications of a narrator, as well as rivalries and conflicts, and it is necessary to consider methods that will exhibit that ability. In other words, in that case each narrative generation mechanism must be prepared and built into each narrator. This is a form similar to a multi-subject model in a complex system, but it is realized in a so-called “thick model,” which is what this research aims to achieve; the knowledge content of each narrator, including the replicated part, is quantitatively huge, so this is not an easy task. One possible solution is that knowledge that can be shared as a whole could be placed in a domain that all narrators can refer to, which would be distinguished as different portions for each narrator, so that there could be a method to drive both sides appropriately by means of a certain mechanism.

Next, the author would like to discuss the structure of narrator and narratee in a narrative. Although a narrative work is structured through the communication between the narrator and narratee on various levels, the basic

standpoint in narratology is the point that the narrator is multiple existence and, similarly, the narratee is also multiple existence. The narrator or sender in a narrative work includes the author as the subject inside the narrative work, who is different from the real author. The narratee or receiver are also similar in this regard. Various subjects engage in narrative generation and reception to multiply control the generation process of a narrative discourse on both deep and surface levels. Narrative senders are referred to as the narrator and author according to their level of multiplicity and based on multiple narrative generation hierarchies.

The multiplicity of a sender is, for example, efficiently shown in *Tōno Monogatari* by Kunio Yanagita (1875-1962) (2016). In this work, Kizen Sasaki (1886-1933) narrated to Yanagita the collected folktales that Sasaki heard from the people in Tōno, which Yanagita subsequently published as his writing. Therefore, in *Tōno Monogatari*, at least three types of senders, namely, **sender A = (a person in) people in Tōno**, **sender B = Kizen Sasaki**, and **sender C = Kunio Yanagita**, are multiply included in the narrative. However, if Yanagita is a sender as an “author,” the narrative that Yanagita wrote as an author obscures a sender in another level. The sender is merely the sender, as the narrator of *Tōno Monogatari*. Therefore, in the structure of the narrator in *Tōno Monogatari*, through a virtual narrator, Yanagita described, as the author, the narrative told by the narrators of the people in Tōno that he heard from the narrator, who was then Kizen Sasaki. Moreover, if a kind of virtual narrator is present in the narrative that is narrated by the narrator, Kizen Sasaki, the following structure appears:

- **“Sender A” = “Narrator A” who is virtually set in the narrative by (a person in) people in Tōno.**
- **“Sender B” = “Narrator B” as (a person in) people in Tōno.**
- **“Sender C” = “Narrator C” who is virtually set in the narrative narrated by Kizen Sasaki.**
- **“Sender D” = “Narrator D” as Kizen Sasaki.**
- **“Sender E” = “Narrator E” who is virtually set in the narrative narrated by Kunio Yanagita.**
- **“Sender F” as the author, Kunio Yanagita.**

Here, concerning **“sender A” = “narrator A” who is virtually set in the narrative by (a person in) people in Tōno**, for instance, in the case of “the narrative that I heard from an old man,” the “old man” corresponds to the narrator of this level. If this “old man” himself also heard this narrative

from another person, this narrative hierarchy multiply continues. The roles of narratee and reader or receiver are embodied as hierarchical and multilayered existences. For example, when the reader, I, reads *Tōno Monogatari*, a reversed scheme of the sender appears. “The receiver, I as a reader” reads the book, *Tōno Monogatari*, that Kunio Yanagita is the author (**sender F**). In this process, this “I” hears the voice narrated by the **sender E** that is set virtually in the book = Kunio Yanagita and the voice include the voice of the “narrator D” as the “sender D” = Kizen Sasaki. Further, this voice includes the voice of **sender D = narrator D** as Kizen Sasaki, **sender C = narrator C** who is virtually set in the narrative that is narrated by Kizen Sasaki, **sender B = narrator B** as (a person in) the people in Tōno, **sender A = narrator A** who is virtually set in the narrative by (a person in) the people in Tōno. Moreover, the voice of this final **narrator A = sender A** will be connected to the voice of the people on a deeper, more historical and folkloric level. The materials contemplated by Yoshimoto (1968) consisted of this kind of “heart of darkness.”

Here, such multiple forms of communication contain both the problem of multiplicity and the multilayered feature of narrative communication and the problem of direct and indirect communication or the temporality in multiple and multilayered communication. However, these may be summarized by the term provided previously. Finally, if narrative employs a form of communication through which a message may be conveyed from the narrator to the narratee, what the narrative tries to express or convey through the multiple and indirect communication as stated above, further, complex and not simplified communication (if the multiplicity, complexity, indirect and non-simplified features is not based on the failure of acquiring their contrasting characteristics)? Conversely, is it initially a mistake to interpret the narrative from the goal-oriented approach of communication? At any rate, when we even consider the narrative from the viewpoint of communication, it should be perceived as comprising multiple aspects. In this regard, the words in a narrative are in a position that contrasts with the pragmatic sentences by Mishima, in which the most important condition is their uniqueness and clarity of meaning. The multiplicity is not true multiplicity in the sense that the final conclusion is acquired as the result of multiple mechanisms; it is instead literally eternal multiplicity, in the sense that diverse meanings are simultaneously included in a narrative, in addition to the mechanism of generation. Even if, at a certain point of time, a narrative seemingly concentrates on one meaning, the phenomenon is only a temporary fixation on the fluidity. In this sense, narratives basically exist in a context of fluidity.

Next, the voice, which refers to the position of the voice in a narrative, is also reflected by the person. In a narrative, although the most common points of view are first and third person, there are novels in which the second person forms a climax (Arishima, 1964) and the fourth person is also presented and practiced by Yokomitsu (1986). Additionally, person and viewpoint (or perspective and focalization) are different concepts that should not be confused. In the narrative that is narrated based on the “I” of the first person, this “I” can frequently know the mental states of other characters. In this case, although the first person is used, the viewpoint is not a partial viewpoint limited to the “I.” Rather, all narratives always have an “I.” In contrast, third person can also have a viewpoint that is limited to the expression and awareness inside first person.

From a different perspective, like the characters in the narrative story, both the sender and receiver in a narrative need to be constructed in the image of each person. This is connected to the question around the narrative character’s essential nature, which overlaps with the problem posed by the characters of *kabuki* in one of the author’s research questions. The problem of characters in *kabuki* can be generalized into a common problem that arises in narrative generation. The author would like to consider the analyses of characters in *kabuki* from a more generalized viewpoint in the future. The author’s research has shown that individuals in *kabuki* have the following three characteristics: “the person as an actor,” “the person as a private person,” and “the person as a dramatic character.” Alternatively, the people in a narrative are generally classified as either “the person as a narrator or a narratee” or “the person as a character.” In the case of *kabuki*, the former is divided into “the person as an actor” or “the person as a private person.” In the types described above, the person as an actor refers to how the narrator or narratee is formed in the narrative. Therefore, this is a kind of person as a character. In *kabuki*, the person as an actor can also be positioned as the person as a character through the long history of *kabuki* itself. Generally, in narratives, the person as a narrator or narratee is not corresponded to the person as a private person. In this sense, the person is him or herself as a character. However, the types are diverse. For example, in one case, a narrator or narratee is the character in a narrative. There are also different levels of people. For instance, the person as a narrator or a narratee can be a character in the narrative that includes the narrator or narratee inside of the story. Thus, here, in one view a narrative generation phenomenon could be analyzed as the mutual interaction among the information related to the people in a narrative.

The levels of narrator (sender) and narratee (receiver) are related to subjects at various levels can be modeled as narrative agents based on the knowledge content and structure. In the formal sense, both the sender (narrator, author, writer, etc.) and the receiver (narratee, hearer, reader, etc.) are related to the narrative characters in the sense that both are subjects in the narrative. Further, the implementation of the highest-level techniques in narrative generation is related to the development of a strategic mechanism for controlling the concrete usage of various senders and receivers.

Sequential and Multiple Narrative Generation System and *Geinō* Information System

There are phenomena called narrative genres and mixed media. In the previous section, **Development and Distribution Mechanism**, the author has tried to capture it in particular in terms of content(s), but such phenomena have occurred naturally since ancient times. For example, in the case of *kabuki*, in addition to *kabuki* works as texts that are actually performed, during the Edo era there was also a type of critical (and even advertising) narrative, such as the written commentary on each actor. Scripts are also read as books. At present it is not uncommon for films, novels, comics, games, and other forms to be linked. In the case of music, too, various conversions are performed, such the fixing of live musical or theatrical performances at performance venues by recording and editing them (as records and CD's), and distributing them via television or network. In many cases, the task of textual conversion between media is not done purely at the individual level, but by an organization such as a company. Publishers, film and video production companies, television and radio broadcasting stations, advertising agencies and production companies, game production companies, and entertainment production, among others, are all included in this category. Furthermore, these are not the only organizations that engage in such profit-generating activities; artistic organizations promoting a system based on artistic lineages or houses (the *iemoto* system), such as flower arrangement (*ikebana*) and the tea ceremony (*sado*), which are popular in Japan, and literature (novels, poetry, *tanka*, *haiku*, and other forms of literature). Coterie associations focusing on *manga* and other interests, and—depending on one's point of view—even religious organizations can also be included here. Of course, it is normal for organizations, companies, and other groups to be involved in “narrative generation system as genre production,” but even in these cases, up

to the previous stage of simple narrative generation, in contrast to the form of organizational involvement in which the creation of a text remains internal, at the stage of sequential or composite narrative generation the center of gravity of organizational involvement is shifting from a relationship with individual works to the control of them. In other words, the difference is that the creation and control of multiple works is carried out at this stage, whereas in the past this was a stage of creating a single work. In this sense, there has been a qualitative shift between the two. If we organize the problem in this way, the subject does not necessarily need to be a group or an organization. From this angle, we can also grasp the mechanism of the “author” as an individual such as a novelist. This point is connected to the *geinō* information system described below, but as a general trend, we discuss this problem in terms of the general trend of its superimposition with the organizational mechanism.

Now we can look at sequential and composite narrative generation from both spatial and temporal angles. Or it may be possible to express and cause various actual phenomena to occur by assuming the existence of these linked or composite forms and combining them. The so-called “mixed media” form can be said to be a spatial expression of these linked or composite forms. For example, when a certain film is produced, in some cases other works such as previews, advertisements, and works belonging to other genres (sometimes including items such as material goods) are also produced. This is an image in which “related” works are produced radially, centered on a certain narrative work. Of course, chronological sequencing is involved in production, which will be a strategically important element, but here we are continually looking at “specific works.” On the other hand, there are cases where works of the same genre are subsequently produced following certain narrative work. Nevertheless, given that film production companies and television stations produce multiple movies and dramas in succession, while the novelist produces separate works one at a time, it goes without saying that this is nothing out of the ordinary. In this case, if we take into consideration the existence of some basic courses of action and strategies, such as variations on the same subject, we can interpret it by associating it with the spatial model above. These models of temporal and spatial development are not separate from each other, and in reality both progress in tandem with each other. In other words, if a work belonging to a certain genre is provisionally set as a starting point, then while the flow of subsequent work is continuously being realized, at the same time works belonging to various genres spread out radially from the center point of each work. Here the starting point can be determined arbitrarily. Therefore, if we assume a bird’s eye view of the whole process,

chronological development is not a single line, but also involves a spatial aspect of branching outward. In this way, it is possible to flexibly interpret and design sequential or composite narrative generation by unraveling the concept of genres and media, so that its axis is organizational function with spatial and chronological structures.

Incidentally, at this stage—that is, the stage of sequential or composite narrative generation—through the author’s consideration of the question of how to construct such a system, he has created the “*Geinō* Information System (GIS)” as a model that actualizes this concept. The author has defined it as follows (Ogata, 2002c): “It is an informatical model that targets entertainment activities, composed of entertainment production mechanisms (production, development, interpretation, and strategy mechanisms), acceptance mechanisms (acceptance and response mechanisms), and communication mechanisms (entertainment event sites); through their organic linkage it creates entertainers and entertainment events that utilize resources such as entertainers and life works. In this way, it functions as a cyclical and endless image-forming and amplifying device related to entertainers or other entertainment resources, including entertainment works. While this system functions as a device, what is also extremely important is its connection to the mechanism of physicality and ephemerality that is the essence of entertainment, and latent in it is the original nature of the *geinō* information system, which coexists within the cracks in this kind of system. This model will open the way to designing and implementing a virtual entertainment production system that will include a narrative generation system and artificial life type entertainer system. In addition, although this model was mainly devised based on research on modern media entertainment, it seems that it has a range that will not necessarily be limited to that realm.”

The *geinō* information system within the narrative generation system was generally conceived as follows. First, entertainers belong to it, and they carry out the performances of individual works that are produced. Each entertainer has a life, and each life itself constitutes a narrative. In other words, on the one hand, a series of individual works forms a chain. The production of individual works is borne by the narrative generation system alone, and their serialization is accomplished by GIS. A group of entertainers is maintained within the *geinō* information system at a different level from the continuity and mutual linkage of characters and settings of individual works; it also weaves original narratives. Therefore, the role of GIS is to maintain a group of entertainers, while producing the entertainers’ individual narratives and their links, and in that sense the simple narrative generation mechanism is

included within a larger higher-level mechanism. Amino, Kawamura, and Ogata (2001, 2002a, 2002b), Ogata and Amino (2002a, 2002b) and Kawamura & Ogata (1997, 2000a, 2000b, 2000c, 2002) have all proposed a plan and actual structure for the above concept. Since then GIS has developed into a larger system framework that includes INGS. It will be described in detail in Chapters 2 and 4 in the sequel (Ogata, in press).

Here the author would like to add some words about “inclusion” as it relates to “entertainment.” The word “entertainment,” *geinō* in Japanese, means refers to the bigger picture including diverse contents, performers, producers, and the like. The nuance of the word, *geinō*, is different from how the words “literature” or “art” are understood. The range of “*geinō*” is large and deep. *Sumō*, for example, was originally a form of religious ceremony, not a sport. The concept of “*geinō*” in Japan(ese) differs from things like “show business” and “entertainment” as these words are used in English, and is linked to religion and ritual in a more fundamental sense.

Also, according to the author’s sensibility, literature and art result are regarded as important as texts that are formed and fixed as the result of a creative process. Of course, generation and production activity occurs in literature and art, and traditionally it was research on the “author” that flourished in modern literature and art research, and even in research on “texts” after the death of the author, the author was revived through textual generation theory, and generation and production were not neglected. In these cases, however, the author was frozen as just as he had been, so to speak, as the entity that produced the fixed work as a final result, and the process of generation and production that had occurred in the interim was nothing but afterward following a tourist route that circled the results that had already been presented. This kind of view will certainly receive refutation from the side of contemporary art, but the trial-and-error of generation in art is consciously intentional, and already fixed at that point in time. In other words, generation and production are already fixed as works in themselves. In any case, fixed work and fixed author as marker constitute the two cores in literature and art, and all literary and artistic phenomena revolve around them as they are systematically interpreted and configured. Fixing also means transcending the restrictions of time and space. Literary and artistic works, and the authors that are integrally part of them, transcend certain temporal and spatial constraints. On the other hand, *geinō* exists only as a process within the boundaries of time and space, and there is no intrinsic power to fix that process as a work. These fixed works do not survive later in any essential sense. The essence of *geinō* is only some phenomena and circumstances at

specific times and places. It can also be said that the author is almost kept outside of conceptualization and articulation. Also, while literature and art are oriented around ideals, *geinō* may be said to be oriented around reality as it is, or around its own form of diversity.

Although it is just a metaphor for the differences between literature, art and entertainment, in music these differences can be expressed as a comparison between Western European classical music and jazz. In jazz, while the text itself that is performed is important, at the same time even more importance is placed on the act of performing it (to put this in more precise terms, the “text itself that is performed” probably has almost exactly the same meaning as the “act of performing it.” Here the “text itself” refers, by comparison, to music that has been written down in the form of a particular work as a musical score). In the former, the musical score that exerts a strict normative influence on performance is emphasized above all else, and the music that is played and act of performance are themselves dependent on it. To begin with, it can be said that jazz (ideally speaking) has no original score (as its origin); the score is one of the resources that inspires the act of performance. No predetermined work exists, and even as it is superimposed on the act of performance, it is expressed in a generative state. Nattiez (1999) organizes the process of music in musical semiotics into three categories, generation, interpretation, and the neutral structure between them. In jazz, generation (and interpretation) is emphasized. Western European classical music seemingly emphasizes this neutral structure, and in fact the neutral structure in jazz is the music itself, while in Western European classical music it primarily corresponds to the musical score, so the creative act that is of primary significance is itself different in the two traditions. In jazz, the work itself is not of primary significance; the process of making and expressing music are purposely said to be the work in a broad sense. Or the music itself and the process are inseparable. Here this idea seems to conform with the concept of *geinō*.

Such a metaphor, however, may now be both extreme and ordinary, and we may be told that no such thing exists in actual music. Since its early days, jazz (symbolically, from the death of John Coltrane (1926-1967) and the most important death of Miles Davis (1926-1991)), jazz has been a historically preserved form of music that has fallen into self-repetition; the method of further splicing that which has been fixed to renew it and fix it again has become widespread, and it is no exaggeration to say that it does not preserve cohesiveness as the genres of various forms of musical expression become privileged. In other words, this example may not be a very good one, but the author wants to say that among the spontaneous ideals of the early period of

jazz music as well as several other periods of reform, the author's approach is that he would rather call them "*geinō*" than "art." But this is just one metaphor. The term "*geinō*" has broader implications. The author himself tends to seek not only pure process, the non-fixed state, or flow, but also that which is fixed. For the author, if "*geinō*" does not contain anything like that which is mentioned above, it is characterized by a fluid process, ephemeral events, the absence of the name of the author and the work; and contrary to the tendency toward fixing, while at the same time the author is also expressing the fact that he is drawn to literature. Initially, the framework of author's research as a whole is "narrative" generation systems, among which the *geinō* information system is included, while at the same time the author is also oriented to literature. In other words, even if only according to the author's own sensibility, the three different concepts of narrative, *geinō*, and literature are arranged side by side. As described above, *geinō* and literature are contradictory concepts, so the connection between them is both complicated and contradictory. Despite this internal contradiction (tension, conflict), if we forcibly create a rough sketch of this relationship, GIS focuses on the linked and composite aspects of narrative generation; the process of continuous and multilayered creation is emphasized over the independent value of individual works, and even when individual authors exist, they are hidden behind the author of the invisible whole that expresses links and multiple layers. In that sense, it is *geinō*, and even if not necessarily superimposed on that contemporary form, it is a kind of *geinō* production mechanism. On the other hand, literary forces exist in contrast to the state of *geinō* flow. And the author would like to position the narrative as a concept that is connected to both of them and encompasses both contradictory tendencies. On the contrary, when viewed from the standpoint of the narrative, even as it separates and splits apart the orientation toward *geinō* and the orientation toward literature, it synthesizes and integrates the two.

Institutional Narrative Generation System: Macro Narrative Generation Level

As the final stage of narrative generation, the author establishes an institutional narrative generation system. This level of narrative generation is related to the author's multiple narrative structures model and informational narratological model. Simple speaking, this is the social level. It does not differ from the previous category in that it is a sequential, composite narrative generation

mechanism. It differs from it in that it does not target individual units of narrative generation, which are typically groups or organizations, but rather targets the practice and development of narrative in societies and institutions, which are larger units. The institutional narrative generation system realizes a so-called collective narrative generation in a variety of institutional frameworks, or conversely, limits collective thought to the individual narrative generation activity, and plays the role of disseminating it. Although the concept of collective narrative generation is accompanied by a certain ambiguity, this ambiguity is also affected by the tendency to reduce and perceive narrative and generation as an individual psychological mechanism. As we are trying to configure it as an activity that relies heavily on intertextuality, however, we cannot avoid the problem of the collective nature of narrative. As the author will describe below, collective narrative generation is divided into two parts, communal-illusion or collective-illusion (Yoshimoto, 1968) and critical narrative generation, but the author adds the word “institution” rather than “communal” and “collective.” Institutions emerge through narrative generation that is collective, collective-illusion, and critical, while on the other hand institutions frame its creation. Furthermore, the institution has a mutually influential relationship with various levels of narrative generation as the outermost edge of the narrative generation phenomenon. In addition, the institution of narrative generation can be seen in the two aspects of the institution as substantial and insubstantial.

First, critical narrative generation is linked to activities related to literary research and education in a broad sense, and it is based on the actual institution of a school. Currently in Japan, literary and art education as well as various research activities are mainly conducted in elementary schools, middle schools, high schools, universities (undergraduate and graduate schools) and other schools (also including private schools, preparatory schools, and various types of classrooms). Criticism of literary texts is closely linked with these activities. One large pragmatic function of criticism in research and educational activities is the evaluation of literary texts from a certain era, and this work contributes to the formation of models and parameters for literary research and education in schools. In addition to the evaluation of the content of individual works, it also serves as a powerful tool for selecting authors or works, such as deleting the work of a particular author from a national textbook for schools and replacing it with a different work. The selection of texts to be used in school education reflects values concerning literature through research activities. At the same time, however, it can exist for the first time only when it is governed by the institution of the school

system that decides content, in a broad sense the school as institution and in a narrow sense as an educational organization. In Japan, it is specifically realized under the regulation of the Ministry of Education, Culture, Sports, Science and Technology, i.e. the regulation of curriculum and study topics, the selection of textbooks for individual schools, and teachers. The principle of such selection and refinement is ultimately expanded to administrative and political activities, with the nation at the top. At present, academic activities such as science and technology are largely regulated by national power, and researchers, educators, research and educational organizations are incorporated into and protected by political power, both financially and in terms of prestige. In the same way, literary activities also have an inseparable relationship with state institutional creation and preservation activities. Throughout history, many academic and literary activities have sought to resist and oppose such institutions, but in the present situation, academia is decisively strengthening the character of what can exist when it is included within the system. In Japan, however, from the point of view of the institution, literature seems to become superficial as it seems to minimize the significance of its existence.

In this way, the institutional narrative generation system evaluates literature by means of a regulatory power that affects research and educational institutions and their underlying mechanisms. It is a move from a sequential, composite narrative generation to a simple narrative generation. This does not necessarily take the form of evaluating literature in the narrow sense, but also acts as a kind of mental social norm by fostering implicit and explicit consciousness. For example, in practical terms feminism has been considered to be a type of academic field like sociology or law, but at the same time its driving force increased, and literary criticism is what had the power to change people's level of consciousness. It is thought that literary criticism, which emphasizes subjective value claims, had the power to transmit this mood to the public, rather than saying that it has focused its energy through scholarly, clearly articulated description. As mentioned above, it can be said that literature as institution currently makes its domain extremely small, but it possesses conscious techniques and strategies to antagonize institutions, and whether this is right or wrong, it seems to practice activity that seeks to propagate social values and thought by means of strong perseverance through criticism, education, and works, in such a way as to cause unexpected landslides in people's awareness. It follows from this point that (literary) theory in the wake of cultural research does not deal with literary works in a narrow sense, but targets a wide variety of texts (including things outside of what is narrowly defined as literature). It seems to emphasize functioning as criticism that aims

to change people's consciousness by normalizing the task of positioning and cutting out internal and external structures. Of course, such a trend did not begin today, but can be thought of as a revival of Marxist methods of literary criticism. Methodologically, however, Marxist literary criticism is based on a so-called, and the theory and criticism of literary research is based on what is called a narrow attack on the "great narrative."

Objects targeted by critical narrative generation at such a level should be referred to as collective- or communal-illusion's institutions that exist beyond research and educational institutions. For example, during one particular period, many people shared what might be called a narrative image for athletes. There certainly was at one time (this was when the author was a child) a shared or collective image called "The Narrative of Shigeo Nagashima (1936-)." In this case, the live broadcasts of baseball games through television and radio (especially "night games"), newspaper articles, television sports programs and news programs (in this way, actual mass communication media circulate this kind of story and become a strong institutional infrastructure). Through individual acts of conversational speech, a simple narrative about one sports player was circulated in the world, but as a whole these simple narratives exist separately, and the shared or collective-illusion that one comprehensive narrative existed festered like a neglected lump (*katamari*) from individual psychology. This is a great narrative, a collective-illusion formed in a dimension different from that of the individual stories generated with intention by individual narrators, and then gradually developed and formed through the act of collective human narration. On the other hand, its nature is to call this even a kind of strong cultural enforcement, and it also has the power to regulate the whole of human narrative generation activity from its most external point. In addition, although single narrative generation or sequential and composite narrative generation are phenomena carried out by the existence of a narrator who possesses intention and subjectivity, whether it is an individual, a group or an organization; at the level of collective-illusion's narrative generation, even if each small individual narrator possesses intention, when it is expressed at a different level than that of the individual narrator, there is a phenomenon organized under the concept of a larger narrator, in which the transcendence of the individual narrator's will, independence and consciousness is expressed. If the viewpoint of basing narrative generation on narrator differentiation and multiplicity of voice is carried all the way through, however, then even simple narrative generation can be regarded as collective narrative generation. The stage where multiplicity of voice is expressed is the society of the author's psychology, the society of the group

and organization (Minsky, 1988) in his AI research in fact modeled the shift from the multiple small agents (or narrators) of human psychology to a structured society). It will certainly return to the difference with society in a broader, more ordinary sense, and the idea of intentional and subjective narrative generation will be shifted at any level.

Society is a collection of narratives that compose a communal-illusion or collective-illusion and a grand narrative consists of countless smaller stories; this grand narrative has several support pillars. Critical narrative generation also plays a certain role in this structuring. If a more essential and comprehensive meaning of an institution is said to be a kind of mental practice that people unconsciously or consciously comply with in society, we cannot disregard the effect it will have on the narrative generation mechanism of the type described above. Institutional narrative generation in this sense corresponds to a kind of world configuration method. The institutional narrative generation system is an institution in the narrow sense, that is, such as research and educational institutions and mass communication institutions. The mediation of the actual institution, while driving forward manifold or innumerable narrative generation processes, is a mechanism that narrows down human activity and society, and produces a system that is, in a broad sense, the principle of nature and smooth execution, organized through critical and collective-illusion's narratives.

Next, the author will explain this issue in more specific terms. The author would like to discuss the level from several perspectives. From the first perspective, the social narrative level is divided into the following two types: (1) narrative generation by intentional units or groups and (2) narrative generation by unintentional units or groups. The former (1) means the narrative generation phenomena by which the generation subjects are business-like organizations and other social groups or units. Alternatively, the latter (2) is the narrative phenomena in which no intentions and strategies are clearly different from the former (1). For instance, in the case of advertisement businesses, narratives as advertising contents are produced through organizational collaborative works and the receivers accept the narratives. In contrast, narrative generation by unintentional groups does not necessarily mean "the narrative generation by groups that explicitly have no intention," and the generation of narratives that are socially and unnoticeably generated or evolves. This type of narrative may be related to the grand narratives (and the small narratives as a reverse concept) by Lyotard (1979) and other similar concepts. In particular, in narratives that are socially distributed, the narratives in the above level do not have clear authors or social units, such

as social groups and organizations. Thus, as the real objects, they exist in an ambiguous location and are too difficult to understand clearly. When the author says “social narrative generation,” the above two types of narrative generation are included. (Moreover, as stated above, the “socially distributed narratives” include both types of narratives that are generated based on the respective methods of the above (1) and (2). More precisely, by adding the level of narrative reception, we are able to describe the following: (1) “narrative generation and reception by intentional groups or units” and (2) “narrative generation and reception by unintentional groups or units.” On the other hand, although these refer to the narrative generation by intentional groups and the “reception” and the narrative generation by unintentional groups and the “reception,” the author do not consider intentionality and unintentionality in the problems related to reception.

The above discussion is also related to the author’s “narrative genre system” that the author described in Chapter 2. By the narrative genre system, the theory did not narrowly understand narratives as only one genre of discourse. The author treated narratives as diverse objects in which narrative elements were included; the narrative elements predominated the entire framework in each narrative. Narratives, in this sense, cover a broad range. The author treated narratives as the objects that are included in various genres categorized in the narrative genre system and showed a comprehensive, albeit tentative, list that includes many concrete examples of Japanese narrative genres. The broad category covers the following five types of genre groups according to the description of Chapter 2: (1) Narratives as works in the narrow sense in which they appear or are included (narratives such as literature, arts, and *geinō* works); (2) Narratives as works in the broad sense in which narratives appear or are included (narratives that have not individuality as a work and have purposes other than the conveyance of a narrative); (3) Narratives as social and emergent phenomena in which narratives appear or are included (narratives in which the creation is rather unconsciously done and the generation and reception process progress without intentional control by particular people); (4) Narratives that invade real phenomena or real phenomena in which narratives appear or are included (actual human and social phenomena are organized through narrative structural principles); and (5) Narratives as human physiological and psychological natural phenomena or human physiological and psychological natural phenomena in which narratives appear or are included (narratives such as night dream, daydreaming, and delusions). The narrative genre system is necessarily not a completely fixed system and has the possibilities of re-organization for narrative categorization based on various criteria.

Regarding the above discussion, the level of intentional narrative generation in the narrative genre system is, in many cases, included in the narrative genre categories. In particular, categories (1) and (2) cover highly intentional and conscious narratives, such as novels and advertisements. Although, based on the author's perspective (Ogata & Kanai, 2010), advertising narratives can be treated as a kind of contemporary folktale; the production of each advertising narrative work is conducted according to a very intentional and conscious process through the collaborative work of organizations and personal creators. Conversely, in many cases, the level of unintentional narrative generation appears in narrative genres that are included in the categories after (3). For example, although political behaviors by many politicians in one era do not aim for narrative generation or story generation, the processes have characteristics that are able to be interpreted as one or more narratives or stories.

For a discussion concerning the area of sociological narratology, here, the author would like to introduce Takaaki Yoshimoto that the author often mentions in this book (moreover, the author will state in detail his career, works, and philosophy in Chapter 4 in the sequel (Ogata, in press). In Japan, Yoshimoto, who was a poet and thinker in the same era as Yukio Mishima, produced a huge number of works with diverse themes and topics in which he conducted discussions ranging from literature in the broad sense to the personal level and from literature in the broad sense to the social level, using diverse or genre-related materials, such as novels, poems, Japanese short songs, essays, thoughts, and religions. His main theoretical framework was called the theory of three types of illusions or fantasies. The basic idea forming the background of many of his works was that illusions or fantasies support humans and societies. Here, illusions or fantasies means the recognition of forms unique to humans that are used for seeing the world and have a kind of fictional feature. In one extreme view, human societies are fictions, further very firm fictions. The use of the term of narrative in this book was partially the result of the influence of Yoshimoto's theory. In the three types of illusions or fantasies, the first type is called "personal-illusions or fantasies." The second and third types are respectively "pair-illusions or fantasies" and "collective-illusions or fantasies." The collective-illusions correspond to social and institutional illusions such as nations. The pair-illusions are areas based on human sexual relationships, such as families. The personal-illusions are unique mental aspects of each individual or person that are not included in the other two types. These illusions are relatively individual. Yoshimoto's original and essential purpose was to separate the personal-illusions that are symbolized by the creative activities of literature into an area that is distinct

from that of the collective- and pair- illusions. On this point, Yoshimoto's theory basically allowed for personal or individual color. However, the collective- and pair-illusions also included a relative automatism, which, in many cases, were in opposition to the personal-illusions. His broad focus was the development of his system of thought and philosophy based on the relationships among the three types of illusions.

For example, according to a series of theoretical books that correspond to his central studies, the level of personal-illusions corresponds to Yoshimoto (1965, 1971, 2008). The level of pair-illusions corresponds to one part of Yoshimoto (1968), one part of Yoshimoto (1984), and one part of Yoshimoto (1989, 1990). Further, the level of collective-illusions is also discussed through one part of Yoshimoto (1968, 1984, 1989, 1990). Comparing the narrative genre system in this chapter, the categories of (5), (1), and (2) mainly correspond to narrative genres as personal-illusions. The fields from (2) to (3) and (4) are categories that align with narrative genres as collective-illusions. Alternatively, if the existence of language itself is considered a social construct, both (1) and (2) may be considered to exist in the place between personal-illusions and communal-illusions or collective-illusions. Although the pair-illusions bridge the personal-illusions to the collective-illusions, this level is a somewhat common concept throughout all narrative genres that exist in the relationship with central themes.

Additionally, based on both the narrative genre system by the author (Ogata) and the theory of three types of illusions by Yoshimoto, the author conducted research sessions called "Narrative Generation Bridging Among 'Symbol and Literature', 'Brain and Mind', and 'Society and Institution'" at the 2017 annual meeting of the Japanese Cognitive Science Society and the regular meeting (December, 2017) of Language Sense Engineering in the Japanese Artificial Intelligence Society. In this session, the author divided the levels of narrative generation into (a) narrative generation as symbol and literature, (b) narrative generation from the viewpoints of brain and mind, and (c) narrative generation from the perspectives of society and institution. In the correspondence with the narrative genre system, the overview, (a), (b), and (c) respectively correspond to (1) and (2), (5), and (3) and (4). Two similar workshops were also attempted at the Japanese cognitive science society (2015, 2016). Through the above sessions, the authors explored the following genres and types of narrative generation: folktales, novels, poems, *kabuki*, *haiku*, movies and images, linguistic analysis regarding autism, narrative generation using neural network models and deep learning models, narratives of marketing and advertisement, problem solving narratives in organizational

management, improvisational dramas, music, metaphor, games, linguistic and image information regarding the taste of Japanese sake, and *dajare* (pun).

One direction on this level is related to the use of business and other methods as mechanisms through which narrative generation systems and the related contents that are produced may be socially developed and distributed. This is the aspect that corresponds to the level of narrative production and consumption in the author's research of narrative generation, or more concretely, in the framework of the multiple narrative structures model. This also forms the final portion of the research system of narrative generation studies by the author, in addition to the problems with actual narrative production and creation. Another part includes the researches that do not directly connect to system's design and development in the narrative generation studies. Originally, one basic proposition in the study of narrative generation was based on the thought or philosophical idea that aimed to grasp our society and world as a synthetic or unified narrative generation phenomenon traversing diverse levels. The narrative generation research by the author was not simply an engineered attempt for the development of narrative generation systems, despite its fundamental importance. In this sense, this level is not simply the final stage of narrative generation research. Instead, it appears beginning in the first stage of narrative generation research, and forms the basis for the whole of the research like thoroughbass. In other words, the level is not an object seen from the standpoint of the researchers and developers of narrative generation systems; it signifies, in a more objective sense, that many narrative generation systems (including humans) in large societies, including the author's narrative generation systems as one very small part, evolve as a kind of image that supports the collective-illusion through the accumulation of many narrative generation processes. In this sense, this level provides the macro social contextual information for the narrative generation systems by the author. Furthermore, this is also the level that provides the information related to the themes that narrative generation systems use in the production and creation processes. In summary, this level is related to the problem of understanding societies and the world.

From a simple narrative generation system to an institutional narrative generation system to a sequential or compound system, each mechanism in the multiple structure of narrative generation has been studied. What is expressed as a result of that process is, for example, a substantial narrative such as the one about the athlete, a collective-illusion's narrative that is also similar to a legendary story, a mythological story or a folktale. Collective-illusion's

narratives are modern legends, myths, and folktales. Their significance is not recognized in one work or text, but collectively they have an important value. Also, that which is shared within people's consciousness is linked to institutions. In this respect, it has an affinity with a dream narrative that is thought to embody the institutional nature of the mind and the brain, so to speak, which is beyond conscious control although it is personal. In the research and development initiative of the narrative generation system, myths, legends, folktales, and dreams are considered to be located at the innermost core of the narrative generation process, but they are produced by an institutional narrative generation system. The narrative has characteristics that are similar to these, and in this sense, the outermost edge of the multiple structure of the narrative generation system is circularly connected to its core.

NARRATOLOGICAL THEORIES AND RESEARCH TOPICS IN POST-NARRATOLOGY: CONTINUITY AND CUTTING IN NARRATOLOGY

In **Introduction** of this book, the author touched upon the breadth of research related to this study as well as several other areas of research, but this section gives a more detailed description of the relevant research to this study. Through this discussion, beginning with the old narratology—research on the theory of narrative in the broad sense, including literary theories and the related broad areas of research on the humanities, society, and nature—we will suggest and discuss its continuity, separation, and disconnection with this research, or in other words “integrated narrative generation through computational and cognitive approaches,” or post-narratology. Firstly, in the next section, the author presents a wide range of research fields related to this research, including the humanities, society, and nature, and in several subsequent sections, narratology, literary theories, AI, cognitive science, and narrative generation systems in particular will be introduced in more detail.

Research Fields on Narrative

Narratology does not necessarily encompass all research on narrative. The academic field related to narrative has spread out to other broad areas. In addition, the author's narrative generation research also extends to areas

beyond the research scope of the humanities and social sciences, where narrative-related research is usually included. Narrative generation research fields related to research have been presented specifically so far in several system-oriented books (Ogata, 1992, 1995, 2003a, 2003b; Ogata & Kanai, 2010; Ogata & Akimoto, 2016; Ogata & Asakawa, 2018a). Here they are considered according to the classifications of narrative in terms of “brain, nervous system, and psychological level—symbolic level—social level.” These studies reflect strong links related (in certain parts) to how narrative has traditionally been understood within existing traditional academic fields:

- Symbolic Level (Literature, Art, and *Geinō* Domains):
 - **Narratology, Narrative theory:** There are several lines of narratology and narrative theory. There are those that have a major focus on narrative discourse (narration) (Genette, 1972, etc.) (narratology in a narrow sense sometimes means the narrative discourse theory), and those that focus on story and narrative content (such as Propp’s (1968) folktale morphology, which reflects a traditional orientation from prior studies of narratology in a narrow sense of narrative theory). In Japan, specifically researchers on *Genji Monogatari* and Japanese classics have developed studies that actively incorporate a narratological perspective (Fujii, 2004).
 - **Poetics:** Western poetics since Aristotle (1997) is a study on the construction of narratives such as plays and novels rather than poetry in the narrow sense, and in that regard it overlaps considerably with narratology. From the perspective of poetry, it can be said that narratology is a reorganization of the traditional study of poetry. Regarding the study of poetry in the narrow sense, because *waka* (Japanese classical short song) occupied the central position in Japanese literary traditions for a very long period of time, numerous works were composed on poetics and poetry. Unfortunately, however, they are not being studied or considered within the context of modern narratology or in terms of fusion with it.
 - **Rhetoric:** This field incorporates broader subjects than narratology or poetics, such as speech and sentences in contexts other than narrative, but it is not merely the study of superficial verbal techniques, but also emphasizes the level of sentence construction itself. Thus it overlaps with narratology and poetics (in the

narrow sense). Poetics (in the broad sense) deals with Chinese and Japanese poetic forms such as *waka* mentioned above, and it is largely occupied with rhetoric. Kanai (2018a), a researcher of film and cognitive science who has collaborated with this author and others, has expressed the meaning of conscious and strategic technique related to image production as “image or film rhetoric.”

- **Literary Criticism:** Narratology and poetics deal with the common structures and functions of ordinary narrative (even when dealing with individual works, its focus is the pursuit of general structures of narrative and literature); by contrast, the genre of literary criticism emphasizes discussion of specific narrative works and authors. In that sense, it is concerned with theories of works and authorship. Genette’s definitive work on narratology (Genette, 1972) presented a general theory of narratology derived from the analysis of Marcel Proust’s (1871-1922) *In Search of Lost Time* (2003). Aristotle’s *Poetics* connects the structural analysis of Sophocles’ (c. 497/6-c. 406/5 BC) (1994) *Oedipus* to a general narrative theory of drama (tragedy). Thus narratology and poetics (as well as rhetoric) tend strongly in the direction of generalization even when dealing with individual works. On the other hand, what is called literary criticism places the emphasis on analysis and commentary on individual works (and authors). When knowledge about some general narrative is proposed within this field, however, its differences with narratology, poetics, and other fields is reduced. On the contrary, in the discussion of a certain narrative work, when the subjective opinions and impressions of the critic addressing that work are emphasized, in other words when the intention is to reveal the critic’s subjective opinions and impressions through the discussion of a particular work, this endeavor moves away from scholarly research in the direction of becoming a literary work in itself. Here this type of criticism is excluded from the academic realm in which narrative is studied (in fact the delineation is difficult; for example, Hideo Kobayashi (1902-1983), who is known as a representative modern Japanese literary critic, speaks about his thoughts through this subject, which in some cases includes general knowledge about literature and narrative.)
- **Linguistics, Discourse Theory, Pragmatics:** Semantic and pragmatic areas of linguistics, as well as the realm of discourse

theory, semantic expressions in narrative, communication structure in narrative; from the perspective of macroscopic and microscopic discourse structure and related themes, these are strongly linked to narrative. Some areas of discourse theory approach poetics and rhetoric as described above. The influence of linguistics, beginning with the “generative grammar” of Noam Chomsky (1928-) (1957), is strongly relevant to AI and cognitive science; narratology and the humanities have also been very strongly influenced by Ferdinand de Saussure (1857-1913) (1983) linguistics and semiotic theory to which it gave rise.

- **Folklore Studies:** Studies of folklore and folktales in particular are directly related to narrative. Propp’s (1968) folktale study emerged from within Russian folklore studies, and the giants of Japanese folklore studies such as Kumagusu Minakata (1867-1941), Kunio Yanagita, and Shinobu Orikuchi and others have left us many studies on this theme. Knowledge of folklore studies since that time—such as narration (the narrator) in oral traditions and forms of communication, the rhetoric of the efficiency of memory and related linguistic and narrative structures, and the changes in forms of expression in specific types of narrative (especially ritual and dance) belonging to each historical period—have provided a wealth of knowledge about narrative.
- **Folktale Studies:** Although this area of research is part of folklore studies as mentioned above, it can also be thought of as an independent field separate from that vast compendium of research. A study on folktale motifs was conducted by Aarne (1969) and others; and Keigo Seki (1899-1990) (1957, 1966, 1977) and Seki, Nomura, Ōshima (1979, 1980) conducted a systematic motif analysis of Japanese folktales. Miyoko Matsutani (1926-2015) (1985) has collected and commented on modern folktales in Japan. (This field is considered to be at the boundary of the third **Social Level (Social Domain)**).
- **Geinō Studies, Geinō History:** Folkloric studies such as dance, theater (*nō*, *kyōgen*, *kabuki*, etc.) in Japan have a great enough scale and body of work to be considered as an independent field of *geinō* research. The history of Japanese *geinō* is largely devoted to descriptions of these forms of *geinō*. (This field too is considered to be at the boundary of the third **Social Level (Social Domain)**).

- **Theories of *Nō*, *Ningyō Jōruri*, and *Kabuki*:** In this context, descriptions of *nō*, *kyōgen*, *ningyō jōruri*, and *kabuki* are probably the most fruitful in Japan's broadly-defined narrative theory as well as studies of folktales and legends. One reason is that these studies have been conducted with an extremely practical purpose. This practical purpose is combined with fundamental academic research so that the commentaries and discussions about art conducted by *kabuki* actors in particular are tied to the formal, structured descriptions of acting and works. Moreover, these works have been organized in the form of large compendiums dating back several hundred years, such as the *Yakusha Nendaiki* [*Chronicle of Actors*] from the Edo era. Also, in *nō* theory, the writers themselves belonged to a group of *nō* inventors including Zeami (1363-1443), and have left a systematic description of various aspects of *nō* (Zeami Zenchiku, 1974). It is also a kind of narratology. (As shown in several of the topics mentioned above, the genealogy of Japanese narratological *geinō* research has been very significant for narratological research. In folklore and *geinō* studies, which concern not only folktales and legends but also dance, sections of sermons, *nō*, *kyōgen*, *ningyō jōruri*, *kabuki*, and other forms of *geinō*, as well as novels and other literary works such as *otogi-zōshi* (a collection of prose narratives from the Muromachi era), *kusa-zōshi* (illustrated woodblock-print literature in the Edo era), *kibyōshi* (Edo-period picture books with yellow covers), and *yomihon* (Edo-period book genre)—a unique form of narratological research has been actively carried out from premodern times to the present. In addition, studies on literary rhetoric concerning forms of poetry that have developed in uniquely Japanese ways (such as ballads, *tanka*, *waka*, *haiku*, and *senryū*, a form of comic *haiku*) have also been actively conducted since premodern times. Unfortunately, as mentioned above, these studies have moved outside of the constraints of specific genres, and in general have not been fused with narratology. The task of selecting and organizing narratological content from among these works is very difficult, but it is necessary for the purpose of defining a unique form of narratology.
- **Cultural Anthropology, Ethnology:** These are research areas that belong to the same group as folklore studies, but when the author refers to ethnology in Japan, it is used to indicate a scholarly

field that should be understood separately and comparatively in relation to the broad study of the manners and customs of peoples throughout the world. Cultural anthropology refers to the theory-oriented and strongly ethnological areas of study that emerged from the following structural philosophical thought. In cultural anthropology, Lévi-Strauss has had great influence, especially as mythology (Lévi-Strauss, 1964) is known for having prepared the way for narratology, together with Propp's folktale theory. It is difficult to say, however, whether Lévi-Strauss's approach to mythology has been sufficiently assimilated and applied in narratology and narratological research until now, because his theoretical system and model, and the results of his practical narrative analysis are complex. (This field too is on the boundary of the third **Social Level (Social Domain)**).

- **Philosophy, Thought:** Lévi-Strauss, who is described above, is one of the advocates of the philosophical thought called structuralism, and narratology can be positioned as one of the outcomes that structuralist philosophy produced. At the same time, Barthes (1975a, 1975b) expanded narratology to include an awareness of semiotics, poetics, and rhetoric, which is also strongly connected to the semiotics of Saussure and others. Other philosophers of structuralism and poststructuralism include Jacques Lacan (1901-1981) and his psychoanalysis, Jacques Derrida (1901-1981) and his philosophy of deconstruction. They also have had certain influences on narratology. A narratologist Etsuko Aoyagi (1958-) (2009) wrote a theory of *Arabian Nights* based on Derrida's philosophy. As another line of philosophy, in the fictional world theory of Davidson (1985) et al, the problem of recognition and construction of the world as narrative has been actively discussed (Noya, 1999; Nagai, 2016). Other related areas include aesthetics and the study of art. There are not many such studies in musicology and the study of art, but there is also an approach to music that applies narratology and semiotics (Tarasti, 1994; Nattiez, 1999).
- **Film Theory, Film Criticism:** These constitute an area of arts studies in a broad sense, but in terms of the scale and accumulation of research, it constitutes an independent field. What should draw our attention in film theory is its analysis through the narratological framework of ancient narratives such as theater

and the novel, that is, analysis based on a narratological analytic framework, and it is worth asking whether it is not impossible to distinguish, in directing the gaze as such, those parts and special characteristics that are unique to film. Film criticism of level comparable to literary criticism has been established in Japan by Shigehiko Hasumi, Inuhiko Yomota (1953-) (2007), and others. Most, however, are descriptions targeting specific works and film directors, as well as descriptions focusing on the reception of film.

- Brain, Nervous System, Psychological Level [Mental and Psychological Realm]
 - **Psychology, Gestalt Psychology, Cognitive Psychology:** Gestalt psychology actively uses narrative as raw material (Bertlett, 1923) when analyzing the role of the schema in actual human cognition, which was later inherited by cognitive psychology. Various schematic knowledge systems concerning narrative have been proposed. These approaches broke off from the field of psychology as it is narrowly defined, and introduced the symbolism that served as the basis for AI, and it constitutes a large portion of knowledge representation research. Memory models, including that of episodic memory in cognitive psychology, are also used as a basis for the composition of narrative generation systems. Currently, the neural network method, which is a lower-level form of knowledge representation, is sweeping the world of AI, but with respect to narrative generation, a higher-level method of knowledge representation, hierarchical processing must be realized by superimposing the structural knowledge of the narrative, or in other words the knowledge structure developed by narratology.
 - **Psychiatry, Psychopathology:** Regarding mental illness, in many cases it was not said to be possible to correlate organic brain abnormalities with psychological (functional) abnormalities, and in that sense, according to one way of thinking, for psychiatrists, understanding a patient's mental illness is equivalent to constructing a model of the patient's narrative or narrative generation process (Aoki, 2017a, 2017b). Also, not only in psychiatry but more broadly within medicine in general (medical practice) is included the understanding that the dialogue between a doctor, other involved parties, and patients, includes the aspect of narrative communication.

- **Psychoanalysis:** The composition of Sigmund Freud's (1856-1939) (1900, 1940) theories of urges has a potential influence on the discussion of flow and fixation in the author's work (Ogata, 2010c). In Freud's model of human mental structure, there is an urge that has neither concrete object nor goal at the innermost psychological layer (Freud identifies it as sexual desire in a symbolic sense) (a fluid state). Through the sensation (feeling) of pleasure-displeasure, for the first time it is tied (fixed) to a subject, and then, through emotion, it leads to targeting and problem-solving behavior at the outermost psychological layer. In the author's narrative generation model, the "narrative generation system (A): narrative generation system as a core system" corresponds to Freud's "urge." Also, in psychoanalysis, the analysis of dreams is particularly relevant to narrative, among them Freud's dream analysis; it is no exaggeration to say that in its entirety it is a stunning rhetorical and narratological theory. The description of Freud's rhetoric and narratology of dream analysis shows that a dream is a single narrative. Freud said that in the process of transforming latent content into explicit content, a variety of dream rhetoric would be used, such as transition and synthesis, but in relation to the abovementioned theory of urges, it shows the fluid circumstances of dreaming subject's urges, which have no target or object. From the point of view of narrative, the subject of the narrative generation attempts to fix the fluid state of narrative generation by using any available rhetorical technique to create his own narrative.
- **Narrative Therapy, Counseling, and Narrative Theory in Medical Treatment:** Narrative therapy is one approach in clinical psychology, but it is not limited to this role; counseling is conducted through dialogue and talking. A wide range of medical practice has a deep connection to narrative, involving dialogue-like communication between physicians and patients and attention to patients' narratives. According to Hasegawa (2015), a researcher of narrative therapy, the first psychological clinical trial by Freud already gave narrative an important role, especially Carl Gustav Jung (1875-1961) subsequently looked beyond the scope of narrative as shared conversation. He emphasized the structure and meaning of the narrative itself that was generated.

- **Neuropsychanalysis:** Neuropsychanalysis (Kishimoto, 2015) is an approach recently being developed by Solms (1997) and others whose goal is to integrate Freudian psychoanalysis and neuroscience, but it tends to be misunderstood. It is not intended to replace Freudian theory with recent findings concerning the brain and neuroscience in recent years, but rather constitutes a new academic discipline in which the two are complementarily fused. Specifically, we associate Freud's psychological descriptions with biological findings about the brain and neuroscience, and then we confirm, amend and modify this information through psychoanalysis, thereby obtaining a biologically-based psychoanalysis. For example, the emotion neuroscience of Panksepp (1998a, 1998b) seeks to classify basic emotions by systematically redefining what Freud called "urges" as a "seeking system." Neuropsychanalysis also has dream analysis as one of its main themes, and it inherits the tradition of psychoanalysis that began with Freud and Jung.
- **Social Level (Social Domain)**
 - **Sociology:** A typical example of a narrative approach in sociology (sociology of narrative) involves seeking to explore the content elements of a narrative that have circulated in society, so as to deepen its synchronic and diachronic aspects. For example, Munesuke Mita (1937-) (1967) traces the idea of the "people" in postwar Japanese society by means of analyzing the content of popular songs. In addition, Pierre Bourdieu (1930-2002) (1996) conducts a sociological study of Flaubert's (1869) *Sentimental Education*, and three-dimensionally expressed the social image of that era by means of correlating the narrative world with the real one. Of course, the world and reality as it is depicted in narrative is an image of the world as it is distorted through the author's eye and reality, and it is a difficult task to grasp the relationship between the two.
 - **Business Administration:** In Japan, "story strategy" by Kusunoki (2010) attracted attention, but in Europe and the United States there has been a series of studies to consider management phenomenon from the viewpoint of narrative (narrative and story) for a long time. Also in Japan, Kanai, Takai, Nakanishi, & Morioka (2009) have advocated for introducing narratology into management research. Why is narrative attracting attention within

the field of business administration? The author began studying the social sciences in general (especially their “methodology,” or “social science methodology”) around 1980 at the university (undergraduate) level, but what was often mentioned in classes (mingled with sighs) was economics. Even in (further developed) social sciences, a human element has entered into the discussion, and although a beautiful model like those in the natural sciences cannot be established, but even if it were to be established, it would require constant revision due to human psychology and behavior. Also, before Adam Smith (1723-1790) (1776) put forth his theory of the “invisible hand of God,” he wrote the *Theory of Moral Sentiments* (Smith, 1759), to demonstrate the impartiality of human psychology (Adam Smith is not an economist in the narrow sense, and also writes literary theory (Smith, 1971). Ultimately, in the social sciences, of course human factors cannot be excluded; there is no choice but to combine more scientific elements with more unscientific parts; the reconciliation and adjustment of both is a truly important issue of synthesis in the configuration of the social sciences. Especially in business administration, which deals with management phenomena with a strong humanistic organizational element, how to deal with the part that is omitted from an ordinary scientific approach in a scholarly way and with as scientific an approach as possible is an important issue. A narratological approach was used as one possible academic framework for this purpose.

- **Economics:** Although related to the above discussion, classical economics based on a rational-human model has attained mathematical and scientific completion in the form of contemporary economics, but at the same time, considering the human characteristics that have emerged from it, various alternate economic models have also been proposed. Cognitive science and AI researcher Harbert Simon’s (1916-2001) theory of problem-solving (Newell & Simon, 1972) was originally a step-by-step approach to solving problems based on knowledge with “bounded rationality”; it was a model of human behavior. Thorstein Veblen’s (1857-1929) (1922) institutional economics is based on the idea that the social institution exists as a kind of social schema for human beings that is the driving force of human behavior, and it has affinities with Marxist economics and even

structuralism. Among Japanese, Masahiko Aoki (1938-2015) went to the United States after becoming frustrated by the Marxist social revolution. He contributed a number of achievements, including the definite establishment of institutional economics (Aoki, 2010), and the same current applies to social economics of Susumu Nishibe (1939-2018) (2006), who also became Japanese traditionalist after the failure of a left-wing social revolution. In recent years, behavioral economics has studied human social behavior, economic behavior, and human psychology, as well as the relationship between irrationality and emotion. With various forms of socially circulating narrative, it is also positioned as a driving force of human social and economic activity. As mentioned at the beginning of this chapter, Shiller (2017) put forth his “narrative economics,” and he has carried out many analyses and investigations into how the narrative concept was manifested in recessions during the twentieth century, and how it actually affected economic trends.

- **Jurisprudence:** A trial is a kind of narrative generation process. For example, in the case of a murder trial, throughout the process of the trial, how it becomes clear by various means (the defendant’s confession, testimony of witnesses, etc.), how the defendant carried out the crime (for what reason, which details were pursued), such that it all comes together as a coherent narrative. Indeed, there are also studies claiming that litigation and law are narratological and literary in nature.
- **Marketing Theory, Advertising Theory:** Todorov (1978) argues that daily human linguistic behavior becomes literary discourse through a process of transformation, but through the rhetoric of the ordinary linguistic act of advertisements saying, “Buy this item,” the narrator is differentiated and elevated, and this language is transformed into literary and narrative discourse. Atsushi Sasaki is analyzing many of important elements in actual advertisements as a producer in an advertising production company. Sasaki (2017, 2018), Ito, Sasaki, and Ogata (2018), Ono, Sasaki, and Ogata (2019), and Ono, Sasaki, Ito, and Ogata (2018) show that image-based advertising is a narrative organized and assembled with the goal of arousing the viewer’s attention. Masahiko Sato, who created advertisements for Dentsu, also shows the storygrammar, narrative structures, rhetoric formulation, and techniques in advertising

(Kōkokuhihyō, 1996). In the case of narrative generation for marketing or advertising, a main core is the vocabulary and sentence generation for the marketing concept, copy generation, etc. The generation of a narrative such as a story or plot for a television commercial Ogata, Watanabe, Hori, and Ohsuga (1995) encompasses various levels including the generation of visual expressions, and the synthesis (Kawamura, 2016, 2018a, 2018b, 2018c, 2018d, 2018e). Incidentally, recently, there is a move to acquire information related to marketing and advertisement automatically, especially for large-volume data, and although studies to make this approach mainstream are being formulated, Sasaki, who is mentioned above, emphasizes the acquisition of “consciousness filtering information (particularly linguistic information)” by actual marketing and advertising professionals.

Narratology and Literary Theories

Based on Ogata (2016, 2019), this subsection presents a simple overview of narratology and related literary theories as a background for narrative generation systems research. It is necessary to refer to the systematic collection and systematization of references relating to narratology, including the newest books, English versions, management sciences, advertising, and other major related areas. Newer directions and researches on narrative generation systems and computational and cognitive narrative studies will be summarized in the sequel of this book (Ogata, in press). Therefore, the following descriptions are basically overlapped with the (Ogata, 2016, 2019). However, the author partially revised.

Narratology, in the narrow sense, structural narratology, is introduced here. By Prince (2003), narratology, in the narrow sense, is “the (structuralist-inspired) theory of narrative. Narratology studies the nature, form, and functioning of narrative (regardless of medium of representation), and tries to characterize narrative competence.” Although contemporary narratology covers a broad range of materials, its chief and original characteristics are structural, and involve a formal approach to texts in various narrative genres. As the author often mentions in this book, many researchers, theorists, and philosophers have developed great eminent and productive theories, such as, the “polyphony” by Bakhtin (1984), the “mythology” by Lévi-Strauss (1964), the “characters’ relationships and story structures” by Greimas (1966), the “morphology of a folktale” by Propp (1968), the “narrative discourse theory”

by Genette (1972), the “narrative structural analysis” by Barthes (1975a, 1975b), the “narrative grammar” by Prince (1982), etc.

As this book shows in detail in Chapter 4, a systematic anthology of narratology by Bal (2004a, 2004b, 2004c, 2004d) covers the full scope of contemporary narratology in the following contents: (Vol.1) Major Issues in Narrative Theory (Preposterous beginnings; Plot, Representing speech; Believe it or not), (Vol.2) Special Topics (Deixis; Time; Character/plot; Paradigmatic case studies; The ethics of narrative truth; Against wholeness), (Vol.3) Political Narratology (Where is the political?; Understanding ideology; The politics of desire; Time.), and (Vol.4) Interdisciplinarity (Law, justice, history, truth; Social narrative; Subjectivity; Music and film; Science and/as Narrative?)

As shown above, narratology already forms a discipline covering various related topics. Through narratology, the word “narrative” has been treated as an important term, primarily in literature and the humanities. Narratology considers narrative to be the conscious or unconscious mental framework that supports and directs human thinking and culture from the background. Narratology also focuses on the general characteristics of narrative, and its basic orientation is to pursue common narrative mechanisms. Although, as mentioned above, the first representative narratologists held forth on a variety of themes, the characteristics common to their approaches were the coexistence of an extremely macroscopic and interdisciplinary humanistic orientation, and a microscopic and precise analysis or modeling of narrative mechanisms. As a whole, they commonly contained outstanding systematic intentionality. In addition to the above description, the author would like to include advertising, marketing, management, and so on.

The following discussion defined the main components of narrative generation. The classification by Aristotle (1997) should first be recalled. He divided the constituents of a tragedy into “plot (*mythos*),” “character (*ethos*),” “thought (*dianoia*),” “diction (*lexis*),” “song (*melos*),” and “scenery (*opsis*).” He claimed that the plot is the most important element. His theory had a massive influence on narratology. At the same time, this idea was not necessarily universal. For instance, *kabuki* does not accept a hierarchy in which plot is supreme. However, if this hierarchical feature is eliminated, the effective use of the theoretical framework is possible. It becomes a synthetic modeling of various narrative elements based on a Greek drama for future narrative-generative architectures. Focusing on a sequence of events, Russian formalism divided it into “*fabula*” (corresponding to story or narrative content) and “*sjuzet*” (corresponding to plot). This basic idea was inherited by narratology. Moreover, Genette (1972) proposed a highly

organized narrative model with three elements: story or narrative content, narrative discourse, and the act of narration.

Today, there are four commonly accepted constitutional elements in narratology. Based on these ideas, narrative mechanisms are overviewed. Although such computational theories and technologies as AI and cognitive science, as well as narratology and literary theories, have been independently studied. The following shows possible correlations between the elements of narrative generation stated above and the available implementation technologies or theories from AI and cognitive science. The narrative generation research by the author is based on this narratological model. The author would like to further consider how to utilize these elements.

First narrative element is “the generation of the story or the narrative world to be narrated.” For the overview, a mechanism is necessary for generating the content or story to be narrated in the final narrative work. In general, this is understood to be the most important part of the narrative generation process. The mechanism generates characters, events, episodes, and so on. A character has such external features as a face and a body, along with internal features, such as a personality and manner of thinking. In many cases, events and episodes are constructed and developed by the actions and interactions of the characters. Furthermore, a story contains physical and mental objectives. The characters and the objectives form a narrative world, and these elements interact with one another to form a sequence of events. The whole is called a story. A story often has one or more narrative theme(s) or narratological meaning(s) to form strong consistency. The detailed elements include (1) Character (external and internal features), (2) Event and Episode, (3) World (physical and abstract objects, their relations), (4) Story or Narrative Content, and (5) Theme and Topic. As computational techniques, there are (1) Frame, (2) Semantic Network, (3) Rule Base, (4) Story Grammar, (5) Knowledge Base, (6) Agent, (7) Conceptual System and Ontology, (8) Problem Solving, Planning, and Inference, (9) Case-Based Reasoning, (10) Case Grammar, and (11) Discourse Theory.

Secondly, the narrative elements are “elements regarding the manner of narrative discourse” and the author calls the level “A: Deep Structure Generation” in contrast the next third narrative element. In the overview, another chief narrative element is the manner in which a story or narrative content is narrated. This element is divided into an abstract and structural level, and a concrete representational level using a medium or media. Category A (Deep Structure Generation) corresponds to the former level. Narrative discourse at the deep and abstract level represents a kind of adaptation of

a story to form a plot indicating the construction, order, and organization of events and other narrative elements based on the narrator perspectives, tempo, and so on. Narrative genres are defined more concretely by the level of narrative discourse than at the level of the story. For example, the same event of murder produces genres of work as diverse as detective novels and psychological novels, based on the differentiated plots of the narrative discourse. The detailed elements are (1) Plot and Construction, (2) Narrative Discourse Techniques, and (3) Genre. The computational techniques include (1) structure transformation and (2) grammatical and rhetorical knowledge structure.

The third narrative elements are related to “the manner of narrative discourse.” This level is called “B: Surface Level Generation, which is directly associated with surface media for representation or expression, and contains language, image, and music. Body representation may be possible. The idea in Barthes (1975a) indicates that narrative is a linguistic or semiotic medium, but actual representation is not limited to language. Boyd (2009) states, as observed in children’s narrative plaies, the consistency of a story and narrative is more important than using a determined medium or media. In Chapter 2, Ogata showed trans-media narrative genres. Therefore, in narratological meaning, the manner of narrative discourse (A) is more significant than that of (B). However, the surface generation level is connected to various rhetorical techniques that significantly affect narrative impression. The detailed elements include (1) Linguistic Representation, (2) Image Representation, and (3) Musical Representation. Main computational techniques corresponded to the above narrative techniques are (1) Natural Language Generation and Processing Technologies, (2) Image Processing Technologies, and (3) Automatic Composition and Variation Techniques.

Fouth, the narraive elements have “narrator or sender, and narratee or receiver”. In overview, a narrative work is organized by communication between narrators and narratees on multiple levels. As stated by Booth (1983), a basic standpoint in narratology shows that narrators and narratees have multiple existences. This means that one or more narrators in a narrative work are internal virtual agents who are differentiated from the actual writer. Likewise, one or more narratees are also at the level of virtual agents involved in the narrative that are different from the actual readers. These agents for narration and reception multiply control of a narrative generation process for the story, the narrative discourse, and the surface expression. The detailed elements include (1) Narrator, Author, or Sender, (2) Narratee, Reader, or Receiver, and (3) Voice. The main corresponding computational techniques

Table 1. Major narratological theories relevant to the author's narrative generation studies

Theory	Overview	The Author's Related Studies
<p><i>Poetics</i> by Aristotle</p>	<p><i>Poetics</i> by Aristotle (1997) is based on a Greek tragedy and is clearly considered the origin of narratological study from the viewpoint of a structural or systematic analysis of a narrative work. The analysis is dependent upon the idea that the aspect of plot or sequence of events is more important than the other elements: the characters and thoughts of the dramatic characters, the music and songs, the rhetorical representation of language, and costumes. His theory indicates a kind of hierarchical production process in which a constructed plot determines all of the other components or elements of the dramatic work, from the selection of actors to the stage directions.</p>	<p>Concerning the narrative generation of the author, Aruga and Ogata (1998) defined a hypothetical pattern for dramatic stories by re-analyzing the description by Aristotle: (1) the occurrence of a problem, (2) the setting of a goal, (3) actions, (4) results, (5) reversal and cognition, and (6) unhappiness. In the first problem occurrence, a hero faces a fundamental problem, namely the narrative theme or the most significant problem. In phase (2), the hero sets an actual goal to cause unfolding or problem solving, thinks of means of achieving the goal, and then executes them in (3). In phase (4), if the hero fails in his attempts, secondary problems are often generated. If the goal is achieved, this narrative is not a tragedy. (However, surface success often results in final failure.) Phase (5) involves the hero realizing that his attempt at problem-solving is useless by recognizing a traumatic fact, and in (6) the hero becomes unhappier than in the initial situation. This skeleton of a story is a special example pertaining to a tragic work in ancient Greece, but it is a fundamental pattern according to which various stories are generated. The story theory by Propp corresponds to a kind of detailed version of the above summary, and contains a basic problem-solving unit similar to Aristotle's story pattern.</p>
<p><i>Defamiliarization</i> by Shklovsky</p>	<p>The idea of "defamiliarization" by Viktor Shklovsky (1893-1984) (1990) involves describing a familiar object using strange and extraordinary language in such a way that recognition of it may change. It also indicates the effect of changing the receiver's recognition. Although all literary acts themselves can be interpreted as a type of defamiliarization, some literary artists consciously utilized the idea of defamiliarization to literary practices in poem and drama, so this theory could be associated with various artistic practices. For example, André Breton (1896-1966) (1969) and other surrealists created strange poems driven by intentional unconsciousness, so to speak, and Berthold Brecht (1898-1956) (1964, 1973) performed experimental dramas that artificially or intentionally exposed the feature of drama for the defamiliarization of drama itself. In the author's view, this may be positioned as a meta-level technique or strategy to apply to various elements or phases of a narrative generation process.</p>	<p>Various techniques have been employed to differentiate a commercial product by analyzing television commercials and developing rhetorical rules of defamiliarization to generate similar short scenarios (Kayamori & Ogata, 2003; Abe, Ogata, & Onodera, 2009; Zhang, Ono, & Ogata, 2011, 2012), and attempts are being made to expand these results to develop a general, norm-deviation mechanism (Chapter 4) (Kurisawa & Ogata, 2013).</p>

continues on following page

Table 1. Continued

Theory	Overview	The Author's Related Studies
<p><i>Motifs in Folktales</i></p>	<p>According to Uno(2015), the research categories of folktales are as follows: (1) comparative studies with classical literature, (2) historical and geographical approaches, (3) methods of historical re-constructionism, (4) functional approaches, (5) structural approaches, (6) psycho-analytical (deep psychological) approaches, (7) ideological approaches, (8) prosody studies, (9) narrator (successor) studies, (10) studies regarding current transmission of folktales, and (11) studies regarding the utilization of folktales. Furthermore, Ozawa (1976, 1997, 1999) stated that an important approach is the "internal study of folktales," in particular, "the study concerning the characteristics of literature as folktales narratives," and he listed the following approaches: (1) the structural approach, including studies regarding motif units and the sequence by Propp (1968) and the abstraction by Dundes (1965); (2) for the motif study, by Ozawa, "a motif is a main act by a main character for constructing a narrative and a unit, including directly corresponding to the acts," in particular, which is a single event and the core of a story; (3) study of expression—the grammar of narration and all elements for narrative expression; (4) study of image—diverse images in various elements in folktales; and (5) study of language (language for retelling of folktales)—dialects, common words, etc. Motifs, in narrative generation, are very important as the point that gives basic units for various stories. There are studies by Aarne (1969) in the West and Seki (1957, 1966, 1977), Inada and Inada (2001), Inada, Ōshima, Kawabata, Fukuda, and Kawahara (1977), and Ozawa in Japan.</p>	<p>In the author's narrative generation study, motifs as short event developments have been collected from Seki's collection (Seki, Nomura, & Oshima, 1979, 1980) and the results have been formalized in the information for the generation as a computer system (Ito, Ono, & Ogata, 2018a, 2018b). In story generation, formally, the knowledge of motifs can be used as the knowledge that embodies the parts in the flow of a story, like scripts. However, each script is a concrete event sequence that deals with a scene. In contrast, a motif is a semantic unit for narratives. In particular, it corresponds to an event sequence that is semantically important in a story and corresponds to a core event sequence in a story. In this sense, motifs are not the knowledge for defining a scene like scripts, and the original significance is rather the use as the knowledge for defining entire structures in a story. In addition, concerning this, the <i>sekai</i> ("world") in <i>kabuki</i> determines the constitutional elements of stories, including patterns of stories and related characters, places, eras, etc. The author will describe <i>sekai</i> in detail in the next <i>Cultural Approaches</i> in this chapter.</p>

continues on following page

Table 1. Continued

Theory	Overview	The Author's Related Studies
<p><i>Narrative Morphology of a Folktale Genre by Propp</i></p>	<p>Propp was a Russian folklorist. Propp (1968) proposed a general theory about narrative structure, which has become one of the foundations of narratology and modern literary theories, especially the structural approaches, although the original article had been published in 1928. He considered folktales to be a symbol of people's collective mentality, and investigated their common structure and cultural characteristics. According to the analysis of about 100 Russian fairytales, Propp called the most important units for defining a common structure of the stories "functions." In short, the central argument of Propp's theory is a structural method based on certain "functions." He defined 31 functions, including "villainy or lack," "struggle," "wedding," and others. Each of the functions corresponds to one event, or a sequence of events, seen from the result. However, his overall accomplishments included the discovery of knowledge related to various aspects of folktales and general narratives. The central core of this knowledge is certainly the aspect of structuralism, but the research essentially identified the other elements as an entire theory. Propp, for example, presented plural examples or techniques for realizing the functions in the comparatively lower level of the collected folktales. Additionally, Greimas and Duménil inherited and extended the above theory. Greimas (1966) remade Propp's theory through an abstract operation based on the unique semiotics, structural semantics, while Duménil (1965) applied Propp's theory to his analysis of Native American folktales to define a newly transformed function chain. Propp's theory has been introduced to areas such as AI and cognitive science, and has been applied to story generation systems. Narrative and story have also been interpreted as schemata for human cognition in the world. Propp's theory has influenced story schema and story grammar. Propp's narrative model deals not only with aspects of story, but also with a variety of aspects in narrative. Thus, it has the potential to contribute to narrative generation studies in a different manner from Aristotle's (1997) <i>Poetics</i>. Approaches have already been proposed to introduce narratological theories into narrative generation. Based on Propp's theory, Lakoff (1972) described a set of grammatical rules in the form of generative grammar to define structures for fairy tales. Klein, Aeschlimann, Appelbaum, Balsiger, Curtis, Foster, Kalish, Kamin, Lee, Price, & Salsieder (1974) used the same theory to propose a story-generation system. The use of narratology has increased in computational narrative models. Gervás, Lönnker-Rodman, Meister, and Peinado (2006) claimed that an interdisciplinary approach to computational modeling could yield great strides in both AI and narratology. Szilas (2010) referred to narratological theories as a requirement for narrative structural elements in his list of needs for computational models of interactive narratives. Many recent generation system architects have used the parameters of narratology to reflect on the distinction between story and discourse. Grasbon and Braun (2001) already proposed a framework for an interactive storytelling system in which plots were managed based on Propp's functions. Peinado and Gervás (2005) used Propp's theory to define the ontology of fairy tales. Their findings resulted in the Knowledge-Intensive Interactive Digital Storytelling (KIIDS) generation system capable of using case-based reasoning to building stylized Russian fairy tales. Gervás (2013b) derived concepts and terms from Propp's work, and proposed the framework of a story generation system to achieve a comprehensive formalization of the theory. His system architecture had three particular aims: it generated a sequence of functions, transformed the sequence into a series of actions, and replaced all variables in the sequence with constants. His paper showed the implementation of the first two goals. Previously, in many cases only the functions were treated in the applications of Propp's theory in informatics, but his theory was supported by the study of an enormous number of actual folktales, since he was originally a folklorist. However, Propp presented an array of examples and techniques at a lower level, in order to materialize functions as abstract definitions, by analyzing collected folktales.</p>	<p>The author has formed the main part of Propp's theory into a type of story grammar to generate hierarchical story structures according to several types of processors. Ogata and Terano (1991, 1992) have already implemented a story-generation system using story grammar based on Propp's theory and character action based on AI planning methods. After using Propp's theory in the first attempt at a story generation system, the research shifted to generating a general narrative into which narratological knowledge could be introduced. However, even when exploring this alternate direction, they have maintained a continuing study of Propp-based mechanisms. A design has been created for techniques utilizing the combination of several stories or moves, as well as for the narrative creation aid (Hosaka & Ogata, 2002; Ogata & Hosaka, 2004). Ogata (2007) summarized these studies to help with future development of the idea. Imabuchi and Ogata (2012, 2013, 2014) analyzed Propp-based story grammar (PBSG), which is rooted in the reorganization of Propp's original theory, and is divided into four hierarchical levels. Although Imabuchi and Ogata (2013, 2014) revised the work by adding a fifth level, the two models are more or less identical.</p>

continues on following page

Table 1. Continued

Theory	Overview	The Author's Related Studies
<p><i>Bakhtin's Theory of Polyphony</i></p>	<p>Bakhtin (1984) understands that multiple narrators exist in Fyodor Dostoyevsky's (1821-1881) novels, and compares this type of novel to a kind of polyphonic music. By contrast, he claims that Lev Tolstoy's (1828-1910) novels were monophonic, and only one narrator controlled the entire world of the novel. By Bakhtin's polyphonic theory, a narrator and other characters simultaneously exist in the worlds of Dostoyevsky's novels, each with an uncontrolled "voice." Therefore, each world involves contradictions and confusion. Conversely, the polyphonic disorder generates a narrative dynamism. In other words, Bakhtin's theory of polyphony argues that characters in a narrative, including the author, are all independent subjects with their personal attributes beyond the author's unified control. Based on this theory, a literary work is a world in which the voices of a variety of characters are blended.</p>	<p>Although immediate introduction of this theory into the author's narrative generation research, including INGS, is difficult, this is very attractive idea. One potential plan has been to design an artificial society simulation or agent-based simulation mechanism with narrative generation by simplifying and limiting each character's definition. Ogata and Yazawa (1999) explores ways of applying this theory to narrative generation, and proposed a conceptual model in which a narrator's function in a novel is distributed to many characters, including the narrator. This model may correspond to a type of multi-agent narrative model. Furthermore, this insight by Bakhtin could help develop such new research issues in narrative generation as deeper modeling of a character and a narrator in a multiple recognition model. Oikawa and Ogata (2012) have analyzed the characters and their mutual relationships in a novel by Mishima (1963). These attempts by a sort of re-interpretation of the Bakhtin's theory are intended to be applied to the future expansion of INGS.</p>
<p><i>Intertextuality by Kristeva</i></p>	<p>Bakhtin's theory of polyphony led to the theory of intertextuality by Kristeva (1980). Bakhtin indicated that the polyphonic characteristic of a novel is based in part on various voices from other works by the novelist, and that fragments within the literary space outside the novel add to the diversity of characters' voices inside the novel's world. Kristeva extended this idea to a general theory of intertextuality, arguing that a literary text is positioned as an organization and citation of related preceding texts, which include the author's subsequent works. This theory claims that a narrative text is formed through the usage and transformation of existing narrative texts, and that narrative creativity appears during the usage and transformation. Intertextuality can be associated with the idea of case-based reasoning (Riesbeck & Schank, 1989) found in AI with the claim that it indicates the usage and editing of existing works.</p>	<p>In the context of the author's narrative generation, this study potentially presents a framework of knowledge acquisition that includes a text-mining narrative generation system to which the concept of intertextuality is applied. Nakashima and Ogata (2006) and Ono and Ogata (2013) divided a narrative text into elements to generate a new narrative through reconstruction, while Tsuchihashi and Ogata (2009) generated a narrative by the citation and transformation of existing narratives.</p>

continues on following page

Table 1. Continued

Theory	Overview	The Author's Related Studies
<p><i>Reception Theory by Jaus</i></p>	<p>The central concept underlying traditional literary studies was that of an author, that is, a standpoint from which the reading and interpreting of literary works are attempted based on an author's autobiographical facts, the social and cultural situations, and the psychological features and intentions. By contrast, since the last half of the twentieth century, reception theory and reader-centric criticism have focused on the reader and the receiving process of literary works. In these theories, readers are interpreted as existences positively related to the production of literary works and are placed at the core of the creative process. Similar to this, reception theory is an important standpoint in contemporary literary theories and narratology, which focuses on the reception or reading process of literary texts. Readers or receivers strongly contribute to the production process of literary texts in this theory. Hans Robert Jaus (1921-1997) was a typical researcher in this area. Jaus (1970) proposed an idea to characterize literary histories based on the concept of "horizon of expectation," referring to a kind of framework of previous knowledge used for positioning a new literary work in the context of the reader's experiences of reading. The artistic characteristics of a new literary work can be grasped according to the disparity between the given horizon and the work, and the appearance of a new work may result in the change of an existing horizon.</p>	<p>The author expanded the theory to a computational model, in which literary works are continuously changing through the interaction between an author or narrator and a reader or narrate, for a narrative discourse control mechanism in our narrative generation system. Akimoto and Ogata (2012, 2014a) mixed the Jaus-based mechanism with the following Genette-based mechanism to form a model and system controlling the deviation of narrative discourse mechanism based on the interaction between a narrator mechanism and a narratee mechanism within a narrative. In system modeling, Jaus's reception theory is simply interpreted as a mechanism to control the discourse construction process through the interaction between a narrator mechanism with generative parameters and a narratee mechanism with expectation parameters. In the most recent implementation, the two mechanisms do not define an existence beyond the system, but are instead virtual agents that are individual models within the system. The Genette portion uses structural processing and the Jaus portion controls it.</p>

continues on following page

Table 1. Continued

Theory	Overview	The Author's Related Studies
<p>Narrative Discourse Theory by Genette</p>	<p>Genette is a French literary theorist and narratologist associated primarily with structuralism. Genette's (1972) narrative discourse theory consists of the following three broad categories: "tense," relevant to the relationship between the story's time and the discourse's time in a narrative, "mood," equal to the modality for regulating narrative information, and "voice," treating the relationship among narration, story, and discourse. Each of the categories is further divided into many detailed subcategories. For instance, "focalization" is a subcategory of mood. The technique of focalization was derived from the concept of narrative "perspective," which has been defined as "the second mode of regulating information, arising from the choice (or not) of a restrictive 'point of view.'" Genette described the following three basic types of focalization: "zero focalization" or nonfocalized narrative, "internal focalization" or narrative focalized by one character's perspective (this is further divided into three variations: "fixed," "variable," and "multiple."), and "external focalization" or narrative that presents only the external behavior of characters. Whereas many narrative generations systems have focused primarily on methods for generating stories, only recently have a small group of researchers introduced the idea of a narrative discourse that utilizes Genette's theory. Lönneker-Rodman (2005) presented a conceptual design for introducing voice into a natural language generation system. Montfort (2007) developed an interactive fiction system in which the progression of a story could be managed through natural language interaction with the user. This exchange contains a function for producing variations within the discourse. These rules are based on Genette's categorization. Jhale and Young (2010) proposed a camera-work operation system for creating a discourse of visual narratives in a three-dimensional (3-D) virtual environment. Moreover, several studies address focalization. Bae, Cheong, and Young (2011) proposed a system that generates different stories based on various types of planning. Such planning is based on character perspectives of the same events by using multiple internal focalizations. A simulation of the movie <i>Rashomon</i> (1950) by Akira Kurosawa (1910-1998) was provided as an example. Gervás (2013a) proposed a system that simulates narrative compositions based on focalization in a simplified story of a chess game. His system composes narratives from the log of a chess game, i.e., the player moves of chess pieces on the board. The game log corresponds to a story, and a narrative is composed based on the experience (i.e., perspective) of a particular chess piece.</p>	<p>From the perspective of narrative generation, Genette's theory consists of both the concrete means of transforming the structure of a story into the structure of narrative discourse (i.e., the ways that we can label narrative discourse techniques), and the description of the classification of the features of narrative discourse. The former corresponds to the categories of time and mood. Since Ogata (1999) reorganized Genette's entire theory to design narrative discourse techniques for a narrative generation architecture, the research group has continued system design and development: temporal order (Mukouyama, Shinohara, Kanai, & Ogata, 2002), perspective (Ueda & Ogata, 2004a, 2004b; Akimoto & Ogata, 2015b), and distance (Ogata & Yamakage, 2004). Although Genette never commented on narrative generation, these studies changed the theory's context by using a computational perspective to create a technological method for designing or formalizing a narrative discourse generation process. This allows for each of the classified techniques applied by Genette to be used as a rule for associating an input structure with a transformed output discourse structure. An input structure is equivalent to a complete story, the partial structure of a story, or a part of the discourse structure. Although other researchers have presented plans for such a mechanism as an integrated whole, experimental systems have been developed independently to verify a single narrative discourse technique. Later issues arose from attempting to incorporate a systemized narrative discourse mechanism based on Genette's theory and other knowledge into INGS (Ogata, 2016, 2019; Chapter 1 in the sequel (Ogata, in press)).</p>

continues on following page

Table 1. Continued

Theory	Overview	The Author's Related Studies
<p><i>Dream Interpretation by Freud, Narrative Approaches to Psychology</i></p>	<p>This subsection does not rely on the chronological order of the work of researchers. Rather, the author attempts a comprehensive description of primarily mental analysis, narrative therapy, clinical psychology, etc. "Censorship agents" based on the dream theory by Freud were placed in the mechanisms for "not thinking" in the mind society modeled by Marvin Minsky (1927-2016) (1988), who is a researcher within AI. As described in Chapter 2, for Freud (1900), a dream was a narrative in which a human mind tries to satisfy its desire. Human desire was divided into a direct type, in which a sleeping person tries to respond to any stimulus to his or her body, and an indirect type, in which a sleeping person wants the unconscious satisfaction of the suppressed desire inside his or her mind. In the latter type, we cannot easily determine the satisfied desire from the content of the dream. The theory claims that "censorship" is the reason. This is the mind's function of blocking the satisfaction of the relevant desire. Censorship functions between consciousness and unconsciousness, and only the elements that pass censorship appear in the content of the dream. However, although this apparent content is associated with satisfying the desire, which is the original objective, it is camouflaged and distorted to hide the true desire. Freud called the operations involved in this process "dream works." The "manifest content" of a dream represents the dream that a sleeping person has, while the "latent content" or the "thought" of a dream corresponds to the actual dream representing the true desire before being distorted.</p>	<p>Saito and Ogata (1998) presented preliminary research for associating the manifest content and the latent content with story and narrative discourse, respectively, to apply to the design of a narrative generation system. Since Freud (1900), mental analysis and psychology have been strongly connected with narrative. For example, narrative therapy (Freedman & Comb, 1996) is a pragmatic field of psychotherapy that placed the concept of narrative as a theoretical foundational principle. Some types of psychology (Bruner, 2003) have also dealt with the problem of the mental functions of narrative.</p>
<p><i>Folklore and "Geinō"</i></p>	<p>Narrative is not necessarily a concept that is equivalent to a particular literary genre such as novels and folktales. It is a universal concept within which diverse content genres are contained. For example, as shown in this chapter and Chapter 2, the Japanese word <i>geinō</i> has a complex meaning that includes elements of shrine rituals, entertainment, and amusement. The <i>geinō</i> is a representative field to be treated by folklore and strongly related to narrative. For instance, <i>kabuki</i> (Kawatake, 2003; Ogata, 2016a, 2018a) can also be located as a <i>geinō</i> genre as a collection of multiple narratives built around original scenarios, authentic related histories, the actors' private scenes, and so on.</p>	<p>The idea of the <i>Geinō</i> Information System (GIS) was considered by based on the survey and analysis of Japanese folklore, performing arts (such as <i>kabuki</i>), and features of the modern entertainment business. GIS has been considered a framework in which various levels of narrative generation processes were driven by authors, receivers, characters, actors, and actresses. The construction is connected with the author's plan for a future narrative generation system comprising several narrative generation systems. This concept led to the rejection of a unified interpretation of a narrative. The author's <i>kabuki</i> study is intended to expand the narrative generation study based on <i>kabuki</i> as <i>geinō</i>.</p>

are (1) Agent Techniques, (2) Knowledge Representations, and (3) Various Generation Control Techniques.

The author now summarizes the major narratological theories relevant to narrative generation studies in Table 1, first from the standpoint of an overview and then related narrative generation studies. The selection and description of these theoretical themes are dependent upon the author's framework of narrative generation research. Although many topics are focused on the theoretical frameworks proposed by a particular researcher, several topics correspond to particular academic fields.

Cultural Approaches

Although a narrative is a universal phenomenon and product in humans, and narratology is a research field that focuses on this universality, narratology is strongly influenced by Western culture, as in many other research fields. For example, as the author mentioned several times in this book, *Poetics* by Aristotle (1997) divided the elements of Greek tragedy into six types. The material of the poetics was Greek tragedy more than, of course, general narratives. However, as representative narrative genres in his age were epic, lyrical, and dramatic (tragedy and comic), his poetics were able to be regarded as a pioneering narratology for the general narrative genre. In particular, concerning the common six types in elements of tragedies, he considered a ranking of importance: (1) Plot or Mythos, (2) Character or Ethos, (3) Thought or Dianoia, (4) Diction or Lexis, (5) Melody or Melos, and (6) Spectacle or Opsis. In his theory, although, the plot is an absolutely necessary and important element.

However, the ideas in poetics are not necessarily universal. For instance, in *kabuki*, which is a narrative genre in Japanese representative drama (actually, *kabuki* was only a theatrical genre on a popular level in the Edo era), when it was first generated, the plot was not the most important narrative element. Of course, in some aspects, we will be able to imagine the following story: from the narrative genre as a non-excellent thing, *kabuki* gradually developed excellent and good narratives by introducing rich narrative stories and plots in other diverse narrative and literary genres, including *nō*, *kyōgen*, *sekkyō*, middle-aged narratives, *ningyō jōruri*, and Edo novels. The author partially has a kind of familiarity to such stories. However, in the actual historical process, *kabuki* has been continuing and developing by tightly holding to the characteristic that do not necessarily regard the story or plot as the most important elements. We can also see this characteristic in the fact that, beyond

various negative opinions, especially since the Meiji era, the form of “*midori-jōen*,” a performance style in which only respective parts of various works are picked up and a stage is formed based on the sequential connection, has become a general or ordinary *kabuki* staging style. Of course, there were essentially negative opinions regarding *midori-jōen* and, especially, an important concept at the National Theatre was “*tōshi-jōen*,” in contrast to *midori-jōen*. In *tōshi-jōen*, the whole of a *kabuki* work is played on a stage. In particular, in the current state of *kabuki* staging, the struggle between *midori* and *tōshi* symbolizes the struggle between the Shōchiku company (including kabukiza and large theaters) and the National Theatre. Additionally, visual effects in *kabuki* are a very important and necessary element. So to speak, “*emen no bi*” (the beauty of a static picture on a *kabuki* stage) shows the importance and significance of visual effects. For instance, in the final part of a scene or climax scenes, each narrative character frequently poses in respective decided positions. That kind of scene is unnecessary for understanding the story or plot and forms only a visual effect. However, in the act of seeing a *kabuki* stage, we cannot deny that in this element we appreciate visual beauty as a kind of static image, included as an essential element.

Narratology focuses on the universality of narratives in a side. At the same time, narratology also has a culture-dependent aspect. Future synthesized narratology will be constructed through mixing universality and locality. Japan is also, as shown in the tradition of critiques such as “*yakusha hyōbanki*” or “*yakusha nendaiki*” in *kabuki*, a cultural community that strongly holds onto the tradition of theoretical narratology in a broad sense. Therefore, in the narratology that the author considers, various discourses that Japan’s literature, arts, *geinō*, etc., have accumulated so far are mined from the viewpoint of computational and cognitive narratology or post-narratology to use them as important and necessary elements. Here is the place where both post-narratology and pre-narratology have a point of connection. In particular, narratology from the perspective of the future also looks to the past as one of its bases.

Also in Japan, from the so-called cultural-dependency narratology, the following works are known as critical texts relating to concrete narrative analyses. The author introduces a part of the old or traditional literary thesires:

- *Kagerō Nikki* [*Kagerō Diary*] (1989) by Fujiwara no Michitsuna no Haha (c. 936-995): It presents a kind of narratology or manifest for a novel in the first part.

Narratology and Post-Narratology

- Chapter 25 (*Firefly*) in *Genji Monogatari* by Murasaki Shikibu: The dialogic discussion of “comparison between histories and fictions or novels” was shown through a dialogue between two characters.
- “*Kyojitsu hiniku ron*” of Chikamatsu Monzaemon (1653-1725) in *Naniwa Miyage* (1959) by Hozumi Ikan (Koretsura) (1692-1769): It describes that good narratives are created between “*kyo* (fiction)” and “*jitsu* (real).” This is a kind of literary theory that discusses the appealing power of arts in the ambiguous place between the real or truth and non-real or fiction.
- Critiques of short songs or poems (*Karonshū*, 2002) by many classical poets and theorists.
- Critiques of *nō* by Zeami (c. 1363-c. 1443) and Zenchiku (1405-1471), and other theorists.
- *Ningyō jōruri* studies: They include the above Chikamatsu’s narrative theory or artistic theory. A systematic study of *ningyō jōroru* history and the structures is provided by the *ningyō jōruri* works by Kanzō Kuroki (1882-1930) (1943).

Other many attempts also provide Japanese narratology. On the other hand, in modern Japanese literature, many works have proposed original literary theories by blending Japanese and European literary traditions. Natsume (2007) analyzed literary works from the perspective of relations between emotional and logical elements and Yoshimoto (1965) analyzed the historical process of Japanese literary works through a theoretical framework based on instructional and poetic language expression. As far as recent theoretical or narratological authors and books, there are Hasumi (1985), Karatani (1993), Watanabe (2012), and so on. As actual novelists, Yokomitsu (1931) published stories such as *Kikai* to show an experimental description of narrative discourse, while Ōe published experimental novels, including *Dōjidai Game* (Ōe, 1979), to introduce narratology and literary theories into the narrative structures.

In addition, there are opinions that the above idea by Yoshimoto is similar to the literary theory by Natsume. Natsume’s literary theory is a framework that analyzes the forms representing literary content from the viewpoint of the relationship between intelligent or logical elements (or these elements as materials) and emotional elements, generated by the former elements. Natsume mainly analyzed literary works in modern English from the perspective of the relationships between logical and emotional elements. The above book by Yoshimoto originally analyzed Japan’s literary works from ancient to modern times from the relationships and struggles between the following

two pairs of concepts: self-expression and indicative-expression. This theory is different from many static literary critiques. From the author's expanded literary theory and narrative generation, it can be regarded as a kind of literary control model for narrative generation. The linguistic theories by Yoshimoto, centered in the above book, are related to the theoretical framework of "communal-illusion or collective-illusion, pair-illusion, and personal-illusion" that was presented in his *Kyōdō Gensō Ron* (1968). The basis of the theoretical construction is the viewpoint on how to correctly position the personal-illusion typically appearing in literary language in relation to the communal-illusion that exists and functions as rules, such as institutions. In the Japanese context that Yoshimoto focused on, the political conversion by Japan's left wing showed the route where frequently getting off a "political party" is resulted in the family. In the case of Yoshimoto, he positioned the pair-illusion corresponding to the family community on an equal level with the communal-illusion. Further, he considered that literature is a standpoint of personal-illusion and has the values and significances that relativize the communal nature of the communal- and pair-illusions. The above idea was used in his linguistic studies and theories. In particular, his basic idea was a literary value evolving through how to insert part of the personal-illusion into part of communal-illusion as institution and rules, further, part of familial pair-illusion. In addition, "narrative" means the invasion of the elements of communal-illusion into literary works. Therefore, the literary theory by Yoshimoto, at the same time, is a critique of narratives and narratology. Hasumi (1985, 2014) also has this same viewpoint. In this sense, they are included in a "literary group." In contrast, novelist Nakagami (1982) is included in a "narrative group." Through his linguistic theory, communal illusionary things are described as the "indicative-expression" in language; on the other hand, personal illusionary things are described as the "self-expression."

In the relationship with the author's narrative generation systems, the level that is possible in current technology and AI is the part of the generation of narratives and literary works as communal-illusion or personal-illusion. In contrast, the parts of the personal-illusion or self-expression is impossible for a computer or AI that does not have "self-consciousness that is different from other people." From this viewpoint, the narrative generation systems of AI will remain on the level of communal-illusion and indicative expression.

On the other hand, Watanabe (2012) introduces "*haishi shichisoku*" in *Nansō Satomi Hakkenden [The Eight Dog Chronicles]* by Kyokutei Bakin (1767-1848) (2003a, 2003b, 2003c, 2003d, 2003e, 2003f, 2003g, 2003h, 2004a, 2004b, 2004c, 2004d) who was one of the greatest novelists. This

literary theory describes seven types of techniques for writing a novel. As a whole, Watanabe mainly treats the above book as the material for modern Japanese novels and narratological and literary theoretical studies focused on the formal and technological techniques for novel generation. This collection treats novels and stories from the end of the Edo era to the present to analyze using narratological techniques and methods. In particular, this book chiefly dealt with the following literary technologies and techniques:

- (1) “*Haishi shichisoku*” by Kyokutei Bakin (a practical theory on the techniques of novels).
- (2) Techniques of focus movement by third person’s plural viewpoints by Shimei Futabatei (1864-1909).
- (3) First person’s techniques by Ōgai Mori.
- (4) Narrative cutting and transformation, done “suddenly” and “accidentally” by Ichiyō Higuchi (1872-1896).
- (5) Internal description and third person simple viewpoint by Katai Tayama (1872-1930), Doppo Kunikida (1871-1908), Tōson Shimazaki (1872-1943), Hōmei Iwano (1873-1920).
- (6) Form-oriented novel writing techniques by Sōseki Natsume.
- (7) Detailed description of objects and things and fluid temporal processing techniques by Naoya Shiga (1883-1971) and Shūsei Tokuda (1872-1943).
- (8) Meta-fictional techniques and metaphorical techniques by Ryūnosuke Akutagawa (1892-1927), Haruo Satō (1892-1964), and Jun’ichirō Tanizaki.
- (9) Contrasting techniques in their historical novels by Jun’ichirō Tanizaki and Ōgai Mori.
- (10) The management of novels by his new feeling literary theory, surprising metaphors, listing of objects and things, non-sequential and jumped listing, mental fragmentation, pure novels, and fourth person techniques by Riichi Yokomitsu.
- (11) The role of imitation by Midori Ozaki (1896-1971).

In addition, several books that comprehensively survey Japanese modern literature from the perspective of narratology and literary theories appear. For example, Watanabe (2017) collected seventy narratological and literary theoretical papers from the Edo era to the 1980s to collect mainly modern Japanese critiques and narratological approaches, including formal, structural, and technological topics. In particular, from Ueda Akinari (1734-1809) and Motoori Norinaga (1730-1801) in the Edo era through Shōyō Tsubouchi

(1859-1935), Shimei Futabatei, Ichiyō Higuchi, etc., in the first period of Meiji era; Shinobu Orikuchi, Takeo Arishima (1878-1923), etc., in the Taishō era; Kiyoshi Miki, Riichi Yokomitsu, etc., from pre-World War II; Taijun Takeda (1912-1976), Naoya Shiga, Takaaki Yoshimoto, Yukio Mishima, etc., from post-World War II, to Kenji Nakagami, Shigehiko Hasumi, and Kōjin Karatani, etc. This collection deals with novelists, critics, and researchers from the Edo era to the present to introduce narratological concepts, methods, and techniques.

On the other hand, Ōura (2017) picked up and gave an overview of the fragments of narratological and literary theoretical studies by novelists, thinkers, critiques, poets, etc. in Japanese modern literature from papers and books. The topics are divided into the following ones (main authors are shown in each topic): theories of novels (Shōyō Tsubouchi, Kazuo Hirotsu (1891-1968), Masao Kume (1891-1952), Sei Itō (1905-1969), Yukio Mishima, and Yoshikichi Furui (1937-)); theories of description (Shiki Masaoka (1867-1902), Kyoshi Takahama (1874-1959), Katai Tayama, Shūsei Tokuda, Hōmei Iwano, and Jun Takami (1907-1965)); theories of narratives (Shinobu Orikuchi, Chōkō Ikuta (1882-1936), Hideo Kamei (1937-2016), Megumi Sakabe (1936-2009), and Hiroki Azuma (1971-)); theories of poetic language (Sakutarō Hagiwara (1886-1942), Takaaki Yoshimoto, Yasuo Irisawa (1931-), Sadanori Bekku (1927-), Nobuo Satō (1932-1993), and Tōru Kitagawa (1935-)); theories of fiction (Ōgai Mori, Sei Itō, Masao Maruyama (1914-1996), Yasutaka Tsutsui (1934-), Takehiko Noguchi (1937-), and Shigehiko Toyama (1923-)); theories of readers (Shin Katagami (1884-1928), Kunio Yanagita, Nobuyuki Ōkuma (1893-1977), Shigehiko Toyama, Takeo Kuwabara (1904-1988), and Eiji Ōtsuka (1958-)); theories of origin and genesis (Mitsutomo Doi (1886-1979), Shinobu Orikuchi, Katsumi Masuda (1923-2010), Hiromi Hyōdō (1950-), and Sadakazu Fujii (1942-)); and what is literature? (Sōseki Natsume, Shūzō Kuki (1888-1941), Yoshie Okazaki (1902-2000), Shūichi Katō (1919-2008), and Takeo Kuwabara). This collection divides the texts by critics and researchers from the modern to the present into the following eight categories: novel theories, description theories, narratology, poetic linguistics, fiction theories, reader theories, theories of literary origins, and “what is literature?”

Computational and Cognitive Theories and Techniques Related to Narratological Knowledge

This section presents information regarding computational and cognitive technologies that is another important and essential basis for the author's narrative generation studies.

Important Concepts in Artificial Intelligence and Cognitive Science

Cognitive science is a field that treats all mental phenomena in human beings, animals, and machines basically as information processing devices that are inseparable from AI. The academic foundation for AI can be said to be cognitive science. In that sense, here we take an integrated approach to its expression.

Various aspects of information research relating to narrative are introduced in this subsection. These narrative-based approaches, including narrative generation systems, commonly use theories and techniques developed by past research in AI and cognitive science. Knowledge representations and computational techniques to be used for text comprehension and generation include story grammar by David Rumelhart (1942-2011) (1975), script and goal planning by Roger Schank (1946-) and Abelson (1977), frame theory by Marvin Minsky (1927-2016) (1975), semantic networking (Quillian, 1968), ontology (Mizoguchi, 2005), etc. These theories and techniques are closely related to analytical studies in narratology and literary theories for story, discourse, and communication between a narrator (or author/writer or sender) and a narratee (or reader or recipient or receiver). In the following description, narrative-related approaches and attempts will be presented according to some topics regarding computational and cognitive approaches. In the future, various elemental technologies, including various recent and new directions such as brain science, cognitive science, management science, etc., will be addressed by these theories and techniques.

Problem Solving, Planning, and Goal-Plan

Problem solving by reduction and planning according to a goal was a central issue in classical or traditional AI (Newell & Simon, 1972). These have been among the most important technical engines driving narrative generation systems. In the main direction, the problem solving behaviors of one or more

characters form the structure of an event sequence as a story. Another method defines the narrative generation model based on the problem-solving process of an author or narrator. Case-based reasoning (Riesbeck & Schank, 1989), which is an expansion of problem solving and planning, has been applied to generate narratives by transforming existing narratives and partial fragments.

The fundamental idea of many conventional narrative generation systems was based on this method of problem solving and planning. The idea, however, of one final and ultimate set goal, and a hierarchically structured goal-plan to be carried out as a stepwise application is an effective method and there is no doubt that it can be applied to narrative generation. The author, however, does not regard this approach as the most fundamental or universal way of thinking about narrative generation. Aristotle emphasized the concept of a goal, but he displays more complex thought on the matter. In Aristotle's (1997) *Poetics*, the subject is Sophokles' (1994) tragedy *Oedipus*, and the protagonist's goal-oriented behavior is superficially targeted through the goal-plan chain of connections. In fact, in relation to the plot that concerns his fate on a greater scale, the mechanism that brings about the final tragedy is realized through the narrative. That is, for Aristotle, in the story the goal-oriented behavior of the protagonist and the plot structure that is realized within the surrounding environment and context are compatible, and in the midst of the inconsistencies and conflicts between the two, the true strength of the narrative is revealed. Rather, the character's goal-plan behavior itself does not account for the strength of the narrative, but the plot structure that obscures it does bring about this result. In this way, problem solving theory is certainly one effective way to develop a storyline, but on its own it can only generate extremely simple narratives.

Also, this is a concept that itself incorporates esoteric issues. Just as human beings and animals reveal their biological characteristics most remarkably through their goals and intentions, this concept led to the argument that AI cannot possess them in principle and therefore cannot succeed. Studies that try to challenge this position directly tend to disappear from view, but until some time ago various researchers still tried to challenge this opinion. Their approaches to the two concepts of intentionality and goal, however, were not the same. In other words, many researchers approached the goal in a straightforward way, seeking to simulate directly the route by which the goal led to a plan that was formulated and put into practice. In Japan, Akifumi Tokosumi (1953-2013) (2007) is the pioneer in this field, and he consistently attempted to model numerous concepts related to narrative generation in the goal-plan framework, but unfortunately his attempts were interrupted and

no successor has appeared. On the other hand, intentionality is a top-down type of concept from the perspective of implementation, but it is a bottom-up situation from the viewpoint of its formation. Intentionality takes shape from the bottom upward and requires a model that is driven in a top-down direction. In any case, the discussion has not matured, especially since studies of intentionality have been used unilaterally only as a basis for advertising the impossibility of AI. One of the compromise measures has been to leave to human beings the parts related to intention, such as support for creative activity, while computers are to enhance creativity and efficiency in human activities by exercising their symbolic processing abilities. This was an idea of sharing roles, or adopting AI as a tool. The author mentions this idea as a compromise now, but the computer technology that has actually had a great influence on human society since the end of the 20th century is based on a type of method for supporting human ability in communication. There is no doubt that support in this broad sense has become part of mainstream technology. Particularly in narrative generation, at the level of social development and distribution, there will be a great connection with this communication and support technology. For example, in order to decide which are good narratives from the large number of narratives generated by a narrative generation system, human-specific knowledge and consciousness would have to be involved. Without a human orientation or more aesthetic sensibility, final decisions and limitations would be difficult.

Schema

The theory of schema or schemata, originally proposed in cognitive psychology, often uses narratives as one of the study materials (Bartlett, 1923). The schema theory represents the framework of knowledge preliminarily held by humans, and controls cognition. When people try to recognize an (abstract or concrete) object, they intuitively extract and use schemata in a top-down manner of cognition of sorts. The schema theory has been applied to human narrative comprehension, and the researchers reported that typical or common structural patterns were applicable to many stories. Story schema or grammar by Rumelhart (1975) proposed a schema for folktales. Although studies on story schema are similar to the theory by Propp (1968) in narratology, many story schemata have formalized descriptions that employ the idea of generative grammar, whereas Propp's theory is valuable in its fullness of narrative information. In the theory of script by Schank and Abelson (1977), a script

is a type of schemata used to represent a temporal event sequence. Scripts are used to define relatively microlevel event sequences, such as those for constituting a scene. By contrast, story schemata are suitable for defining more macrolevel event sequences, such as an entire story.

The author will now address an important problem that should naturally be considered from the perspective of narratology, although people are hardly aware of the schema theory of conventional narrative that is described above. In the above introduction of Aristotle's example, what the author called "plot structure" corresponds to a kind of narrative schema. It is a narrative schema, however, with a fundamentally different character from the above narrative schema and script. That is, whether it is based on a problem-solving method or a method with a fixed pattern, it is not a schema for a story as an evolution of events in chronological order, but rather a concept of a schema that is considered to be more conscious of the existence of inconsistencies among the events in a narrative and its climax. The conventional story schema and grammar were often structured using the problem-solving type of method described above. This approach is also positioned within the narrative generation mechanism located within the composition of the author's narrative generation system (the detailed description will be provided in the section on INGS in Chapter 1 in the sequel (Ogata, in press)), but the plot grammar should rather be positioned in the direction of a narrative discourse mechanism. The structure of the entire story, which cannot be obtained through the characters' chain of goal-oriented actions, is like that found in *Oedipus*, analyzed by Aristotle, as well as in many *kabuki* narratives. No narrative structure therein contains goal-oriented behavior of characters that does not also organically contain a fateful narrative structure that obscures it at the same time. This point may be related to the fact that the story schema was originally devised as a model of human narrative perception. It is a model of the recipient or reader side, and is a model of cognition aimed at fairly simple recipients or readers. That is, in this model, the recipient or reader of the narrative emotionally transfers himself to the main characters (especially the protagonist) as he accepts the story, so in response to the goal-plan behavior of the characters and their problem-solving in various situations, there arise contradictions and conflicts with respect to their behavior, which are probably felt by the characters as well as by the recipient or reader who emotionally enters into the characters, which is a factor that creates a kind of interference. True narrative theory, however, must focus on the existence of this interference. And it will not be sufficiently addressed within the model of the recipient or reader of the narrative, or the quite simple recipient-reader model. Rather it is necessary to

call the forth the existence of the sender or creator from the generation side of the narrative. In AI and cognitive science until now, however, it was rare that a theory would be proposed that was oriented toward the sender of the narrative. In recent years, the author and his colleagues have been working on collaborative research with producers and directories on the actual advertising production side (Ito, Sasaki, & Ogata, 2018; Ono, Sasaki, & Ogata, 2019; Ono, Sasaki, Ito, & Ogata, 2018), but on the basis of the problem of what kind of effect the sender want to bring about for the recipient, the goal is to build a model that consistently includes everything from sensory elements related to narrative reception to structural and technical elements related to narrative production.

Knowledge Representation

The schema theory proposed a method for explicitly studying human mental processes, and these attempts were tied AI to cognitive psychology. The assignment of a computational description to each of the various types of schemata is called knowledge representation. The schema theory was the headstream of knowledge representation in AI. Well-known theories of knowledge representation include the semantic network theory by Quillian (1968), rule-based systems or production systems (Davis & Lenat, 1982), and frame theory by Minsky (1975). A system constructed using knowledge representation(s) is called a knowledge-based system. Knowledge representation techniques are often used to implement various components in narrative generation systems. A group of frames can be used as a data structure to describe the attribute knowledge used to represent features of concepts to be defined in a story, such as characters, events, concrete or physical objects, abstract or psychological objects, and so on. A semantic network is a method of flexibly representing the relationships among such concepts. In an extension of knowledge representation, studies of deep knowledge representation structures, such as the “Thematic Abstraction Unit: TAU” (Dyer, 1983), were intended to be applied directly to narrative or story comprehension. The above Tokosumi (2007) also described these knowledge representation methods in detail in the context of narrative understanding.

Many conventional studies that are very important for the above problem-solving and schema, as well as for ontology or the following conceptual dictionary, are formally described as being based on the human memory model of a “knowledge expression program.” It is also a basic human

model in conventional AI and cognitive science, according to which human understanding of the world and behavior occur through knowledge expression. Furthermore, the problem of narrative understanding and generation has been treated as a good subject to provide complex and deep expertise for the purpose of this knowledge expression. On the other hand, AI that does not involve knowledge expression was proposed later, and research on low-level knowledge expression, that is, research on the neural network model, is active at present if it is not high-level knowledge expression. Certainly human recognition happens in the brain and the brain is physically established as a neural network, but it is not easy to join organically the level of the brain's physical behavior and level of memory and understanding, or high-level knowledge. That is, there is a large gap between the two. Therefore, a model of holistic cognition is necessary, without knowledge expression, that will intelligently and organically connect the two of them. In narrative, too, the possibility that a certain artistic sentence is generated from the complex statistical processing of a neural network model is currently being worked out, but there is no explicit or conscious knowledge, strategy, or technique for this purpose. It is impossible to think that only unconscious techniques are involved in the production of literature and art, and the existence of conscious strategies and techniques, in the realm of AI, can be widely expressed through a formal description of knowledge representation. For example, Mishima states that, in the novel (narrative), the author's passion appears within the unconscious, only after he has completely exhausted all conscious techniques. Therefore, he is saying that the author has no need to intentionally seek to depict his passion. The author agrees with this opinion.

Conceptual Dictionaries and Ontology

Forms of knowledge representation, like semantic networks and frames, are necessary for many narrative generation systems, in order to describe objectives in story worlds. However, we can systematically define wider-ranging and more detailed descriptions of objectives by using conceptual dictionaries and ontological knowledge bases. A conceptual dictionary and an ontological knowledge base are too general and large to describe a limited story world, and hence the development can be difficult. However, these are effective approaches for developing a general and versatile narrative generation system, in which genres, themes, and contents are not narrowly restricted. Their essential use in narrative generation systems is quite primitive.

For example, the narrative generation system proposed by Okada and Endo (1992) was organized as an application of a large-scale conceptual dictionary, but used a few narrative themes. Mizoguchi (2005) discussed an ontological model using *Genji Monogatari*, but its actual implementation will be very challenging. By contrast, Ogata aimed at the development of an Integrated Narrative Generation System (INGS), described in Chapter 1 in the sequel (Ogata, in press).

Note that while the above problem-solving and schema is a concept or method strongly related to the aspect of event chains within a story, the dictionary and ontology are concepts or methods associated with information related to the contents of an event. In the story, it is primarily important how events are related to one another, but at the microscopic level, information on the relationship between individual semantic elements constituting the event is necessary. Therefore, the story is configured within two levels of mutual relationships—those between elements within the event, and those between the events themselves.

The author will add one consideration for the dictionary. That is, let us compare the phenomenological and normative aspects of language. The phenomenal aspect of language refers to the aspect of linguistic knowledge that faithfully reflects human linguistic phenomena in the real world, while the normative aspect indicates that human language as it is used in the real world is guided in a certain direction; in other words, it refers to the aspect of institutional knowledge. It may be close to the distinction between *parole* and *langue* in Saussure. Also, if the phenomenal aspect (knowledge) is strongly related to the micro strategy of language use, it can be said that the normative aspect (knowledge) is strongly related to the macro strategy. Dictionaries can also be developed based on their strategies and guidelines. For example, a dictionary as a collection of linguistic knowledge with a strong phenomenological hue can be created based on statistical knowledge of current language phenomena. Conversely, a dictionary as a collection of linguistic knowledge with a strong normative hue can be created based on the rules of grammar and vocabulary usage in the current language. In actual dictionary creation, it is usual to think that these two strategies are used in parallel. Even in current AI and natural language processing, various studies tending in both of these two directions are being carried, out even though they are not yet conscious of this fact. For example, the statistical research strategy represented by current deep-level learning is based on a phenomenological language strategy, which makes it possible to collect and use a variety of language phenomena, but its basis is fundamentally the principle of majority rule. In the use of language, errors

from a grammatical point of view are acceptable as phenomena. Some argue that such a dictionary should faithfully follow actual language phenomena, while there are also opinions that language norms, grammar and tradition should be emphasized. For the author, the language of literature, narrative and art that is beyond the unconscious use of language represents a shift to the goal of using language consciously and strategically. Traditional norms and institutions are outcomes linked to valid techniques that are effective for maintaining rhetorical strength. On the other hand, simple intertextual narrative strategies and techniques can easily be associated with phenomenological trends. Norms and traditions for the next generation, however, are born out of them. Therefore, in the author's research, we aim for both the phenomenal and normative aspects of language (or narrative).

Natural Language Processing/Generation, Discourse Theory

In the qualitative processing of natural language, prior to quantitative and statistical natural language processing, many narrative comprehension studies were attempted, and the outcomes have often been applied to narrative generation (Schank, 1982, 1986, 1990). In particular, the generation processing of deep level language structures was associated with narrative generation (Ishizaki, 1988; Hovy, 1993), and discourse comprehension attempted to analyze the structures of complex novels (Hobbs, 1990). In contrast to the processing of the deep structural level of language, the new trend of natural language processing was dealing with language by surface information using techniques of information retrieval and linguistic characteristics, such as word frequency and co-occurrence. For narrative that originally needs deep knowledge, an important direction in the information processing is to introduce the surface processing into the deep approaches. Natural language generation (Reiter & Dale, 2006) is a current field of research and development. The general approach divides a language generation process into the following two phases: the deep generation phase, which generates a conceptual structure of the meaning to be described, and the surface generation phase, which transforms the semantic structure into a surface language structure. Although the macro framework is similar to the generation process of narrative generation systems, narrative generation is a rather comprehensive and complete framework, since it should include the textual knowledge concerning ordinary description in addition to narrative-oriented textual knowledge. Furthermore, regarding the role of surface language generation, narrative generation needs many more style texts, including description, dialogue, monologue, and so on.

Narrative media are not limited to language, but it cannot be denied that linguistic expression is their most important element. Even the linguistic expression of a single word has a hierarchical structure, and from the elements of its most superficial layer, or in the narrow sense linguistic knowledge content, yet at the deepest layer it also includes language as a cluster and the structural components (discursive elements) of sentences, and even more semantic elements. The last semantic element is probably the part that borders on narrative knowledge. In narrative generation (in which language is the main medium) there is an argument as to which of the semantic elements is more important, those that are linguistic in the narrow sense or in the broad sense (e.g., the story or plot in a narrative). Such arguments often took place at conferences in which the author participated. Some theorists held that in narrative story and plot are important, while others argued that linguistic expression is important. The simple answer, needless to say, is that both are important. This will also vary, however, depending on the narrative genre and the type of task. For example, in the production of an image for an advertisement, first an advertisement scenario equivalent to a story or plot is created at the planning stage, and then concrete images are shot and edited at the production stage. In the case of the former advertising scenario, what is important is the description of the story and plot, while the quality of the sentences expressed need not be so high. Therefore, what is important in this case is the story and plot. In the case of a novel, however, in which sentence expression is provided for the recipient's acceptance of it as the final work, sentence expression itself is of course important (which is not to say that story and plot are not important). There was also a theorist who brought up the question of which was technically easier. This type of theorist often expressed the idea that from an engineering perspective, attacks should be made from the standpoint of easier techniques. There were also many theorists who thought that story and plot are more difficult than sentences. The author's approach to narrative generation is to treat language equally and as being organically integrated from the surface-layer structure to the deep-layer structure, while at the same time handling it as a completely independent whole. What has become clear in the process of research and development is that a generation mechanism for story and plot (narrative discourse) is extremely difficult to achieve, and there is a need for deeper and broader research in order to solve it.

Cognitive Poetics/Narratology, Narrative Rhetoric

Cognitive poetics and cognitive narratology, which have been proposed by Stockwell (2002), Herman (2000, 2003), etc., aim to analyze narrative texts using theories developed in the field of cognitive science to show formal, cognitive, or rhetorical structures in the texts. A series of cognitive science studies about the phenomenon of narrative rhetoric by Kanai et al. (Kanai & Ogata, 2004a, 2004b) aimed to develop the cognitive science of imagery that focused on relationships between and aspects of story and non-story, or discourse, in films by blending narratology and film theory. This consideration gestured toward the strategic aspect of the control mechanisms of narrative generation. These are considered moving from a story-centered narrative style to a discourse-centered style using film narratology and an original picture analysis. For bridging the gap between narrative analysis and narrative generation, Kanai and Ogata conducted an experiment of an image generation system having rhetorical techniques for cutting a story's continuity, in order to introduce the technique as a narrative generation method. The "cognitive rhetoric of metaphor" by Utsumi, Nakamura, and Sakamoto (2012) and Utsumi (2018) was also related to the problem of narrative comprehension. Furthermore, many attempts were made to develop affective inference models using narrative texts based on various forms of knowledge representations, such as problem solving by goal-planning (Tokosumi, 2007). These pioneering narrative studies in AI and cognitive science will likely prove significant for the future progress of narrative generation systems.

These are mostly overlapping approaches to narratology and poetics in the humanities, but in those academic fields, even in programmatic formalization as found in AI and cognitive science, there are not many things within this range. There are not many things in the range. Among them, the work of some researchers in Japan as described above reflects such an approach, and the author's own work also has some similar characteristics in some areas. The author's approach differs from many of theirs, however, in that his purpose is not to construct a cognitive model at the personal level, but that his research aims to broaden the range of the question not only of narratology but also social, literary and artistic production and creation, for the purpose of both personal and social narrative generation.

Human Creativity Aid

The study of human creativity aid by Hori (2005) and other researchers can be related to narrative generation at various junctures. Akaishi (2006) proposed a system that interpreted stories in a document based on surface language analysis and context transformation, according to points of view. In his general discussion regarding creativity, Hori (2007) pointed out why contemporary narrative generation systems are not narrative “creation” systems. This, he said, is because such systems generate narratives only within the thinking space in the knowledge base preliminarily created by the system designer. Therefore, these systems cannot create novel thinking space beyond that prepared by the system designer. However, he said that if a narrative generation system could generate results predictable by the system designer, and a user could create new thinking space using a stimulus, such a system could be said to have some function as a creativity “support” system. This insight will probably be very important in the development or use of future narrative generation (or creation) systems. Sakuma and Ogata (2005) presented a method of narrative generation support. Akimoto and Ogata (2016) proposed a socially open narrative generation model applying human creativity aid to the task of narrative generation.

From a broader perspective in relation to the author’s research, from an extremely large-scale perspective, the author’s narrative generation research fosters support for the personal and social creative activities supported by the narrative generation system, and its development is for that very purpose. In other words, as will be described in Chapter 4 of the sequel (Ogata, in press), at its final stage this research initiative has utilized the narrative generation system and its social development it has produced as a kind of musical instrument. The intention is the mutual interaction of the social (external) and individual (internal) in the development of the narrative, to the production of which the author himself is strongly bound. Within this process, the narrative generation system at times plays a completely automatic machine-like role, and at other times plays the role of a medium that collaborates with human beings, including the author himself. In this latter sense, for the author the narrative generation system is a kind of creative activity support mechanism, but even from a more macroscopic viewpoint, the whole mechanism of narrative generation is formed within the narrative generation system, and therefore it is possible to regard the macro system itself as a sort of creative activity support mechanism.

Media and Hypertext

The new concept proposition on human interface by Laurel (2013) relies on the *Poetics* by Aristotle that was described above. She modeled the process of a user involved in the system through good human interfaces in computational systems dependent upon Aristotle's plot theory, in which a sequence of events is constructed and structured in the relationship with effects on the audience. Seigō Matsuoka (1944) (1992), who is an editor and writer based on a more comprehensive narrative viewpoint regarding literature and humanities, and, especially Japanese cultures, attempted to analyze the mechanisms and structures common to many narratives according to the idea that narratives are strong human knowledge media, but this plan has not been implemented. Smith and Bates (1989) attempted a narratological discussion for interactive fiction or interactive storytelling through the actual implementation of the OZ system. The media for surface narrative representation in narrative generation systems is not limited to language. As approaches to narrative representation media, many studies have been conducted, including computer graphics and comic generation by Hoshino (2004) and Thawonmas, Oda, and Shuda (2009), and the bridging of music representation and narrative generation by Akimoto, Endo, and Ogata (2013). However, many of these systems do have an automatic generation function—hypertext novels that use multiple links of fragments of texts to present new possibilities from which the reader can proceed and control the progression of a narrative work (Bolter, 1991; Morita, 2006). Endo and Ogata (2002, 2003, 2004), by way of a similar approach, proposed a hyper-comic that was a hypertext-based *manga* (comic) system with a partially automatic generation function. The idea underlying hypertext novels and similar approaches can be positioned in an exploration of reception theory or reader-oriented criticism in narratology, because a reader is actively involved with narrative progression by selecting one of several subsequent narrative possibilities. Further, in the context of narrative generation, Riedl and Young (2006) provided an approach of branching stories. Consideration was also given to changing from a story-centered narrative style to a discourse-centered style using film narratology (Chatman, 1980) and picture analysis (Kanai & Ogata, 2004a, 2004b). The latter experiments performed using an image generation system that contained rhetorical techniques for cutting a story's continuity in order to introduce the techniques as a method of narrative generation. On the other hand, "musical narratology" has been attempted since Tarasti (1994) and Nattiez (1999) based on the semiotic method.

Studies that analyze narratives such as novels and comics from the viewpoint of hypertext structure and expression have been carried out until now, but hypertext structures and expressions have not yet been explicitly incorporated into INGS. Among them, however as the author will describe in Chapter 2 in the sequel (Ogata, in press), within the context of *kabuki* research, we have recently included the advancement of research to acquire “*geinōjin* information” such as *kabuki* actors automatically from the Japanese Wikipedia page. In this research, it is possible to extend this associative information by storing tag information in the acquired sentences. By means of this method to make use of the sentences generated, narrative generation with hypertext structure becomes possible. The author believes, however, that narratives and novels that sell hypertext in particular are never interesting or superior due to the power of the hypertext itself. In other words, the author thinks that the interest of the story depends on what kind of storyline and plot line will ultimately be selected and determined from among various possibilities. The fact that the narrative itself becomes hypertext can lead to the elimination of true significance in such a narrative. The hypertext should rather be positioned as a technical method to express the fluid appearance of the narrative as a hidden structure behind it.

Computer Game Technologies

Computer game technologies are closely related to narrative and narrative generation, which includes various interesting technologies more than interactive storytelling. Recently, IRIS is the architecture of non-interactive text adventure game (Fendt & Young, 2014). Li and Riedl (2015) presented an offline planning plot generation mechanism and Hartsook, Zook, Das, and Riedl (2011) showed game worlds generation mechanism. “Suspenser” by Cheong and Young (2015) is an interactive storytelling system based on the reader’s cognition of suspense. As a relating direction, Barber (2008) already presented an idea of interactive narrative generation system based on dilemma (“Generator of Adaptive Dilemma-based Interactive Narratives”: GADIN). Further, Min, Ha, Rowe, Mott, and Lester (2014) applied a new AI technology, deep learning, to the world of digital game.

One powerful application of narrative generation technology is computer games, but the author personally does not have much of a taste for gaming narratives. The author thinks that the significance of a narrative exists in a condensed form with only the developments that have been selected from

a number of event development possibilities, with the other possibilities truncated. In addition, games generally do not deal with subjects that ordinary adults are interested in compared to narratives such as novels, films, and theater (and only certain adults have a great interest in the kind of fantasy stories that children like). The author has a kind of framework that encompasses the entire story as one subject and functions as a game mechanism; that is, the game function is positioned as a flow state within the narrative, from which a more fixed story emerges; we envision a fundamental mechanism of this sort that is related to games. Apart from this type of macro plan, the author and others recently adopted a table-talk role playing game method, and we devised a narrative generation game that automatically functions as a device for “surprise” caused by gaps in narrative development (Ono & Ogata, 2018b). The surprises due to the gap here are also related to the literary theory of defamiliarization or dissimilation. Regarding dissimilation, the author and his colleagues categorized the dissimilation rhetorical techniques in the representation of goods in advertising and partially carried out their implementation (Abe, Ogata, & Onodera, 2009). The authora are also trying to introduce this dimension into the game.

Neural Networks and Deep Learning, and Content Generation

Several research projects have studied the neural networks connected to the understanding and generation of narrative. Martin, Ammanabrolu, Hancock, Singh, Harrison, and Riedl (2017) have mapped out a neural network approach as one method of narrative generation. The story generation mechanism they propose is pipeline architecture that utilizes the neural network model to deal with both the generation of multiple events from a single event, and sentence generation from an event. In other words, based on recurrent encoder-decoder neural networks, they use two types of neural network technologies for events and sentences, called “event2event” and “event2sentence.” Min, Ha, Rowe, Mott, and Lester (2014) applied deep learning to digital games.

The partial use of neural network technique architecture in narrative generation systems seems valid. The author and others have conducted research on *haiku* generation using a deep-layer learning method (Igarashi, Ito, & Ogata, 2017, 2018), though it is the first proto-typing approach. This is not necessarily aimed at generating the *haiku* itself, but as part of the narrative generation mechanism in the future, the goal to incorporate a *haiku* generation mechanism within INGS and its application system; furthermore,

setting aside *haiku*, we seek to make use of what has been obtained through this research to apply knowledge within the learning mechanism of INGS and other mechanisms. For example, the acquisition of a script (Ogata, Arai, & Ono, 2016; Ono & Ogata, 2018a) corresponding to knowledge of micro-level event chains in story and application of the neural network approach to learning, which is currently being performed basically randomly, is being applied to generation control (at what point in time to select and execute any technique) for story, narrative discourse, and the like. We are also exploring the possibility of applying this approach to various mechanisms and function, such as sentences and music generated using simple grammatical knowledge, as well as representational media such as images, and proofreading tasks in representation media.

Previous Narrative Generation Systems

First, a simple history of fiction related to narrative generation is given. Devices or systems to automatically create documents and narratives have long existed in the human imagination.

- Ramon Llull (or Raimundus Lullus (1232-1315)) wrote *Ars Magna Generalis et Ultima* (1305-1308) to show mechanisms of generating words and sentences with philosophical meanings by using a “Lullian Circle.” Oda (2007) introduces the concrete writing mechanism by the Lullian Circle.
- In Part III of *Gulliver’s Travels* by Jonathan Swift (1667-1745) (1726), the narrator, Gulliver, introduces an invention in the “Grand Academy” that can be called an “automatic document production device,” which enabled people to write various genres of documents, including literary poems and academic papers, without effort or thought. However, writing works in the Grand Academy are like a kind of muscular labor.
- In his *An Imaginary Number*, Stanislaw Lem (1921-2006) (1984) narrated fictional histories of computational literature (“bit literature”). This novel shows “several literary works written by robot authors.”
- In his *Galatea 2.2*, Richard Powers (1957) (1995) described in detail the design and development of a fictional narrative generation system using neural network technology similar to recent deep learning technology.

However, automatic document production has partially reached the stage of actual business. As a part, by their web pages and advertising documents, the “Wordsmith” system by Automated Insights, Inc. (<https://automatedinsights.com/>) transforms structured data in industrial genres, such as ecommerce, financial services, real estate, media, entertainment, personal fitness, business intelligence, etc., into story forms. The “Qull” system by Narrative Science, Inc. (<https://www.narrativescience.com/>) is a data-driven storytelling system for business fields. Narrative generation and story generation relevant to human creativity have also been important and major theme for automatic document production.

In addition to automatic generation systems and related interactive storytelling systems (Magerko, 2006; Montfort, 2007) and interdisciplinary approaches to narratology and literary theories (Gervás, Lönneker-Rodman, Meister, & Peinado, 2006), narrative-related information studies include the following themes:

- Narrative-making support (Bers, 1999).
- Representation technologies for images (Jhale & Young, 2010).
- Narrative prose generation (Callaway & Lester, 2002).
- Narrative understanding such as narrative extraction and summary (Elson & McKeown, 2007; Mueller, 2007).
- Database, knowledge base, and ontology for narrative generation (Peinado & Gervás, 2005).
- Evaluation and verification (Rowe, McQuiggan, Robison, Marcey, & Lester, 2009).
- Narrative cognitive modeling (Herman, 2000, 2003).

Moreover, in new workshops and recent research meetings, such as “Workshop on Computational Models of Narrative,” active discussions on this topic have taken place. In this workshop, narrative generation is one of the major topics and themes related to narrative theories are also treated.

Application studies have also been conducted on narratives:

- Applications to computer games with interactive narrative technologies, education and learning environments with narrative functions (Hecht, Starosielski, & Dora-Abrams, 2007).
- Human-computer interaction related to narrative (Riedl, Saretto, & Young, 2003).

Narratology and Post-Narratology

- WEB-based narrative representation (Alani, Kim, Millard, & Weal, 2003).
- Advertising generation and production (Ogata, Watanabe, Hori, & Ohsuga, 1995).

Regarding application, from a broad perspective, Ogata (1995) discussed the possibilities of covering human interfaces, multimedia interfaces, gaming and simulation, education, idea formation and thinking support, decision-making support, social planning, creation support for various types of texts, entertainment such as games, novel book media such as electronic publishing, narrative creation process support, etc. These partially overlap with the discussion of “narrative intelligence” by Mateas and Sengers (2003).

As a guideline, the author divided the majority of past narrative generation systems into two approaches, based on the AI techniques supporting their development: a problem-solving approach and a structural approach (Ogata, 2016a). A chief strategy of the former was planning, or having a goal-plan strategy (Schank & Abelson, 1977). For example, TALE-SPIN (Meehan, 1980) applied this method to a system that automatically generated different stories from a story world based on characters’ actions to achieve specific goals. Although more comprehensive and complicated, DAYDREAMER (Mueller, 1990) and MINSTREL (Turner, 1994) were also classified in this group. The system based on the Aesop World series (Okada & Endo, 1992) utilized large-scale conceptual dictionaries that employed the goal-plan mechanisms of characters as the basic method for story generation. By contrast, the structural approach involved a narrative generation process based on narrative structural formalizations, such as story grammar and story schema. GESTER (Pemberton, 1989) and JOSEPH (Lang, 1999) are both narrative generation systems consisting of an interpreter with both a story grammar and a world model. The story grammar in each system defined the abstract structure of the stories, and the world model contained elements embodied within the story structure: actors or characters, objects, and causal relations between events.

BRUTUS (Bringsjord & Ferrucci, 1999) employed a blended approach by using various problem solving and planning narrative methods, and such structural techniques as story grammar and theme structure. Such synthetic systems may be grouped into a third approach. Actually, significant mechanisms of narrative generation need to have a very synthetic and integrated architecture that have a variety of narrative techniques and modules. INGS by the author is a typical concretization of synthetic narrative generation approach. Although

Table 2. Proposed narrative generation systems

System Name	Overview
TALE-SPIN	This story generation system is the most famous study from the early stage of research in this field (Schank & Riesbeck, 1981). The system, which Meehan (1980) called TALE-SPIN, is theoretically simple and clear. It involves a character (animal) and interactions that form a sequence of events based on goal-oriented and problem-solving planning. The flow results in a story of success (goal achievement) or failure. Each event is described or defined using the conceptual dependency theory by Schank and Abelson (1977). This theory classifies a large number of verbs into a limited number of categories by, for instance, such descriptions as the transposition of physical and mental objects. The mechanism implies a kind of higher ontology of verb concepts. Therefore, the TALE-SPIN system has various interesting narrative generation methods, such as character interactions, semantic natural language processing, and simple sentence generation, in addition to the planning approach. The methods proposed by the system, particularly the planning method, were inherited by the following many narrative generation systems.
DAYDREAMER	This system by Mueller (1990) is among the most synthetic of narrative generation systems using the planning method. DAYDREAMER is a computer program that simulates the consciousness of daydreaming, with a consistent character and a narrator. The goal of the system is to compensate for and rationalize a negative mental state, based on the failure of external actions (for instance, "lost love"), into a positive mental state through planning. The continuous simulation and narration of the wandering flow of consciousness in the process is equivalent to daydreaming. Therefore, although this system is not a narrative generation system, strictly speaking, it synthetically implements various interesting mechanisms and techniques related to AI and cognitive science that include, in addition to goal-oriented planning associated with emotional states, the generation of external stories (occurring in the external world), creativity processing by serendipity, scripts for detailed expansion of an episode, various narrative knowledge representation techniques using semantic networks and frames, and so on. Lebowitz (1985) also proposed a synthetic narrative generation framework involving character planning as well as the author's goals and planning, but its implementation has not been considered thus far.
A Story Generation System Based on Aesop's World	This system by Okada and Endo (1992) generates stories of the animal world, similar to Aesop's fables, based on problem-solving and goal-oriented planning methods, according to the goals of specific characters. One of the characteristics of this system is processing based on a mind model comprising both intelligent processing, such as recognition and understanding, and sensitive processing, such as emotional inference. Another significant merit of this system is its use of conceptual dictionaries for verb concepts, noun concepts, and adjective concepts to describe the story's world and define the rules of goal planning. Yet another feature is that the system is multi-modal, with a computer-generated-based animation mechanism in addition to natural language processing (Noma, Kai, Nakamura, & Okada, 1992).
MINSTREL	The MINSTREL system by Turner (1994) is a problem-solving program that automatically generates stories according to material in the narrative of <i>King Arthur and the Knights of the Round Table</i> . The system contains a function for a character's problem solving, while it prepares a different type of problem-solving function for the author. This is based on the important idea that the task of narrative generation is a comprehensive problem-solving activity trying to satisfy different goals using multiple planning through a generation process. In this sense, this research is a synthetic consideration and result of narrative generation using the problem-solving method. The use of case-based reasoning in AI as a means of driving goal-oriented planning is a distinctive feature in the system, and is a mechanism for implementing a form of creativity in the sense that new narratives are generated by the use and transformation of existing narratives and fragments. The mechanism based on case-based reasoning is also related to intertextuality (Kristeva, 1980; Genette, 1982) in the literary context.

continues on following page

Table 1. Continued

System Name	Overview
BRUTUS	The BRUTUS system by Bringsjord and Ferrucci (1999) has a synthetic narrative generation system architecture, like MINSTREL, and deals with a consistent narrative generation process. In the generation process, the system first creates a story, which is the material to be narrated, using a theme structure. It then extends the story into a plot based on the goal-based problem-solving simulation of characters. Following this, based on the created plot, the system generates a text structure using story grammar, and finally carries out natural language generation using literary rhetoric. As stated above, the outstanding merit of such a system is that the narrative generation process is clearly divided into three stages or modules of story, plot, and text. The system adequately applies different and corresponding methods and techniques to process each stage. In previous narrative generation studies, only the aspect of story generation was treated, or the division between aspects was very vague when multimodule programming was attempted. The partition of narrative generation in BRUTUS reflects the basic framework of story and discourse (deep and surface).
MEXICA	This system (Pérez y Pérez, 1999; Pérez y Pérez & Sharples, 2001) generates stories from Native Mexican folktales. Based on the engagement-reflection theory by Sharples (1996), they modeled a narrative generation process as a creation process of construction and revision based on constraints (constraint conditions). The system uses case-based reasoning to implement the narrative generation framework for exploring existing narratives and revising the explored fragments into a novel form using the rules of the theory. Incremental and repetitive revision and extension of the first existing narrative fragment correspond to a narrative generation process. Therefore, this is also related to intertextuality in the literary context, and deals with the general problem of incremental creation by revising existing materials.
IF	This “interactive fiction” system by Montfort (2007) realizes narrative variations. One of the characteristics of the system is introducing the narrative discourse theory proposed by Genette (1972) for introducing techniques of “how to narrate” into the system. Narrative discourse techniques contain exchanges of temporal orders to narrate events and viewpoints to view an event or the sequence from multiple perspectives. In processing, a simulator in the system generates a world model at the specified time according to the user’s input information, and a narrator narrates the world model using the narrative discourse techniques. It is a narrative generation system focusing on a variety of narratives of the same event. (Although many previous narrative or story generation systems deal with the part of story generation, the main function of IF system is narrative variation, namely the part of narrative discourse. INGS by the author clearly has and integrates both story generation and narrative discourse functions in a synthetic framework.)

Table 2 provides examples of some narrative generation systems, many of examples have such synthetic or integrated architecture.

Recently, diverse techniques of neural network and deep learning have been applied to narrative generation and other content generation studies (Guan, Wang, & Huang, 2018; Martin, Ammanabrolu, Wang, Hancock, Singh, Harrison, & Riedl, 2018; Chen, Yi, Sun, Li, Yang, & Guo, 2019; Wang & Wan, 2019). For example, a mechanism proposed by Tambwekar, Dhuliawala, Martin, Mehta, Harrison, and Riedl (2019) generates narrative plots according to various themes or event concepts using a deep reinforcement learning model for the semantic representation of events. As stated in chapter 2, in narrative generation, semantic or deep elements in the abstract level or invisible narrative elements play important and indispensable roles through

story generation, theme construction, etc. These elements are not directly represented in a narrative text. By contrast, neural network processing is a bottom-up learning based on the elements that directly appear within a surface text. Therefore, neural network narrative generation studies are frequently combined with visual image processing (Gonzalez-Rico, 2018; Kim, Heo, Son, Park, & Zhang, 2018; Huang, Gan, Celikyilmaz, Wu, Wang, & He, 2018; Wang, Fu, Tang, Li, & Mei, 2018; Yang, Luo, Chen, Li, Yin, He, & Sun, 2019). However, from the perspective of the author's narrative generation study, a future important issue is the exploration of narrative learning that includes multiple narratives and hierarchical characteristics covering the surface level, such as concrete representations and plots, to a deeper level, such as stories and themes, to further the entire narrative structure.

Moreover, Winston (2012) presents a framework for story understanding based on the following four hypotheses: (1) Inner Language Hypothesis, (2) Strong Story Hypothesis, (3) Direct Perception Hypothesis, and (4) Social Animal Hypothesis. By the inner language hypothesis, he means that humans construct symbolic descriptions of situations and events using a symbolic inner language. Based on the inner language, humans can tell, understand, and recombine stories; this is the strong story hypothesis. Further, the inner language enables the marshalling of our perceptual systems about real and imagined events and the social characteristic expands the value of story understanding and directed perception. Based on the above philosophical standpoints, Winston proposes a story understanding system called the Genesis system which involves the following five steps: (1) Identifying the Competence to be Understood, (2) Formulating Computational Problems, (3) Proposing Computational Solutions, (4) Developing an Exploratory Implementation, and (5) Crystalizing Emergent Principles. This proposition can be interpreted through the perspective of the hierarchical narrative process wherein fluid inner narratives are fixed as social narrative contents in light of various narrative interactions. This perspective is related to the multiple narrative structures model proposed in this book. The transition from the inner language to the society in the hypotheses of Winston can be considered corresponding to the dynamic relationships between the narrative generation-reception process and narrative production-consumption process in the multiple narrative structures model. Additionally, the problems of symbolic narratives/perceptual narratives and their relationships according to Winston are associated with the introduction of neural network narrative generation techniques as a part of the narrative generation process.

CONCLUSION

In this chapter, first, In **FROM NARRATOLOGY TO POST-NARRATOLOGY**, the author discussed a development from previous narratology to post-narratology based on five viewpoints, **Narrative as Multiple Communication**, **Narrative as Simulation**, two types of Transpositions, **Constructive Transposition and Informational Transposition**, and **Institutional Perspective**. The author's new approach to narrative emphasizes the aspects of dynamical narrative simulation, generation, and production of diverse narratives, i.e. the aspects of narrative creation. Moreover, based on the multiple narrative structures model, the author aims at studying through personal level narrative generation and social level narrative generation or production, further the level of literary and artistic narrative creation.

The following section, **THE DETAILED CONSIDERATION OF NARRATIVE GENERATION FOR POST-NARRATOLOGY**, divided the basic components of a narrative into story, narrative discourse, and narrative representation, based on previous narratology and literary theories. The Integrated Narrative Generation System (INGS) also uses the basic generation phases and mechanisms for story generation, narrative discourse generation, and narrative representation, which correspond to the higher level's modular division of the system, including many of the modules from the lower level. In contrast, this chapter stated the macro process of a narrative generation system in detail from another viewpoint. A "narrative generation system" is a unified framework for the comprehensive processing of diverse narrative phenomena and the "multiple narrative structures model" is a basic concept for the purpose. A narrative generation system is realized as a narrative generation mechanism in which narrative processing from micro levels to macro levels organically and spirally move by the linkage.

Next section, **NARRATOLOGICAL THEORIES AND RESEARCH TOPICS IN POST-NARRATOLOGY: CONTINUITY AND CUTTING IN NARRATOLOGY**, considered the need for existing narratology and literary theories. It means narratological researches in the broad sense and includes a wide range of areas of human, social, and natural sciences to develop the literary and narrative foundation of post-narratology. The discussion in this section ensured continuity with the previous field of narratology and, at the same time, separated it from the old tradition of narratology and narrative.

ACKNOWLEDGMENT

This chapter's research was supported by JSPS KAKENHI Grant Number18K18509, Kayamori Foundation of Information Science Advancement Research Grant, The Telecommunication Advancement Foundation Research Grant, and AOI TYO Holdings Inc.

REFERENCES

- Aarne, A. (1969). *Mukashibanashi no hikaku kenkyū* [Comparative study of the folktale] (K. Seki, Trans.). Tokyo, Japan: Iwasaki Bijutsusya. (Original work published 1913)
- Abe, H., Ogata, T., & Onodera, K. (2009). An analysis of products introducing rhetoric in advertising and the prototype system implementation. In *Proceedings of the 23rd Annual Conference of the Japanese Society for Artificial Intelligence* (1J1-OS2-4). Tokyo, Japan: The Japanese Society for Artificial Intelligence.
- Akaishi, M. (2006). A dynamic de-composition/re-composition framework for documents based on narrative structure model. *Transactions of the Japanese Society for Artificial Intelligence*, 21(5), 428–438. doi:10.1527/tjsai.21.428
- Akimoto, T., Endo, J., & Ogata, T. (2013). The expansion of paths in the mutual transformation mechanism of music and narrative. *International Journal of Cognitive Informatics and Natural Intelligence*, 7(4), 44–63. doi:10.4018/ijcini.2013100103
- Akimoto, T., & Ogata, T. (2015). Experimental development of a focalization mechanism in an integrated narrative generation system. *Journal of Artificial Intelligence and Soft Computing Research*, 5(3), 177–188. doi:10.1515/jaiscr-2015-0027
- Akimoto, T., & Ogata, T. (2016). Designing a socially open narrative generation system. In T. Akimoto & T. Ogata (Eds.), *Computational and Cognitive Approaches to Narratology* (pp. 91-117). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0432-0.ch003
- Alani, H., Kim, S., Millard, D. E., & Weal, M. J. (2003). Automatic ontology-based knowledge extraction and tailored biography generation from the Web. *IIIE Intelligent Systems*, 14-21.

Amino, T., Kawamura, Y., & Ogata, T. (2001). An analysis of narrative production & consumption and the architecture of virtual *geinō*-production system. In *Proceedings of the 15th Annual Conference of Japanese Society for Artificial Intelligence* (2E1-07). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Amino, T., Kawamura, Y., & Ogata, T. (2002a). Hierarchical generation of *geinō*-idol stories: Toward *geinō* information system and narrative marketing. In *Proceedings of 17th Congress of the International Association of Empirical Aesthetics* (pp. 549-552). Rome, Italy: University of Rome Tre.

Amino, T., Kawamura, Y., & Ogata, T. (2002b). Narrative generation of *geinō* characters and digital narrative marketing. In *Proceedings of the 16th Annual Conference of the Japanese Society for Artificial Intelligence* (3f2-10). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Aoki, M. (2010). *Corporations in evolving diversity: Cognition, governance and institutions*. Oxford, UK: Oxford University Press. doi:10.1093/acprof:oso/9780199218530.001.0001

Aoki, S. (2017a). Learning difficulty and story generation. In *Proceedings of the 34th Annual Meeting of the Japanese Cognitive Science Society*. Tokyo, Japan: Japanese Cognitive Science Society.

Aoki, S. (2017b). Learning difficulty and story generation: From the viewpoint of psychiatry. In *Proceedings of 56th Special Interest Group on Language Sense Processing Engineering*, (pp. 53-57). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Aoyagi, E. (2009). *Derrida de yomu "Senya ichiya"—Bungaku to hanreisei* [Reading "Arabian Night" by Derrida]. Tokyo, Japan: Shin'yōsha.

Arishima, T. (1964). *Umareizuru nayami* [The agony of coming into the world]. In *Arishima Takeo Shū* (pp. 350-393). Tokyo, Japan: Chikuma Shobō. (Original work published 1918)

Aristotle. (1997). *Poetics* (M. Heath, Trans.). London, UK: Penguin Classics.

Aruga, H., & Ogata, T. (1998). Structural analysis of tragic story and formalization of general rules. In *Proceedings of the 12th Annual Conference of the Japanese Society for Artificial Intelligence* (pp. 697-700). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Bae, B. C., Cheong, Y. G., & Young, M. R. (2011). Automated story generation with multiple internal focalization. In *Proceedings of 2011 IEEE Conference on Computational Intelligence and Games* (pp. 211-218). New York: Institute of Electrical and Electronics Engineers. 10.1109/CIG.2011.6032009

Bakhtin, M. (1984). *Problems of Dostoevsky's poetics* (C. Emerson, Trans.). University of Minnesota Press. (Original work published 1963) doi:10.5749/j.ctt22727z1

Bal, M. (2004a). *Narrative theory: Critical concepts in literary and cultural studies* (Vol. 1). New York: Routledge.

Bal, M. (2004b). *Narrative theory: Critical concepts in literary and cultural studies* (Vol. 2). New York: Routledge.

Bal, M. (2004c). *Narrative theory: Critical concepts in literary and cultural studies* (Vol. 3). New York: Routledge.

Bal, M. (2004d). *Narrative theory: Critical concepts in literary and cultural studies* (Vol. 4). New York: Routledge.

Barber, H. (2008). *Generator of adaptive dilemma-based interactive narratives* (Doctoral dissertation). Department of Computer Science. The University of York, York, UK.

Barthes, R. (1975b). *S/Z: An essay* (R. Miller, Trans.). New York: Hill and Wang. (Original work published 1970)

Barthes, R., & Duisit, L. (1975a). An introduction to the structural analysis of narrative (L. Duisit, Trans.). *New Literary History*, 6(2), 237–272. doi:10.2307/468419

Bartlett, F. C. (1923). *Psychology and primitive culture*. London, UK: Cambridge University Press.

Bers, M. U. (1999). Narrative construction kit: “Who am I? Who are you? What are you?”. In *Narrative Intelligence: Papers from the 1999 AAAI Fall Symposium, Technical Report* (FS-99-01, pp. 44-52). Palo Alto, CA: The Association for the Advancement of Artificial Intelligence.

Bolter, J. D. (1991). *Writing space: The computer, hypertext and the history of writing*. Lawrence Erlbaum.

Booth, W. C. (1983). *The rhetoric of fiction*. Chicago, IL: University of Chicago Press. doi:10.7208/chicago/9780226065595.001.0001

- Bourdieu, P. (1996). *Rules of art: Genesis and structure of the literary field*. Stanford, CA: Stanford University Press. (Original work published 1992)
- Boyd, B. (2009). *On the origin of stories: Evolution, cognition, and fiction*. Harvard University Press. doi:10.2307/j.ctvjf9xvk
- Brecht, B. (1964). *Brecht on theatre: The development of an aesthetics* (J. Willett, Trans. & Ed.). London, UK: Methuen. (Original work published 1950)
- Brecht, B. (1973). Engeki no tame no shō shikō genri [A principle for thinking theatre]. In Bertolt Brecht engeki ronshū, I [Bertolt Brecht's drama theories collection, I] (K. Senda, Trans.). Tokyo: Kawade Shobō Shinsha.
- Breton, A. (1969). *Manifestoes of surrealism*. Ann Arbor, MI: University of Michigan Press. (Original work published 1924) doi:10.3998/mpub.7558
- Bringsjord, S., & Ferrucci, D. A. (1999). *Artificial intelligence and literary creativity: Inside the mind of BRUTUS, a storytelling machine*. Lawrence Erlbaum.
- Bruner, J. (2003). *Making stories: Law, literature, life*. Cambridge, MA: Harvard University Press.
- Callaway, C. B., & Lester, J. C. (2002). Narrative prose generation. *Artificial Intelligence*, 139(2), 213–252. doi:10.1016/S0004-3702(02)00230-8
- Chatman, S. (1980). *Story and discourse: Narrative structure in fiction and film*. New York: Cornell University Press.
- Chen, H., Yi, X., Sun, M., Li, W., Yang, C., & Guo, Z. (2019). Sentiment-controllable Chinese poetry generation. In *Proceedings of the 28th International Joint Conference on Artificial Intelligence* (pp. 4925-4931). International Joint Conference on Artificial Intelligence Organization.
- Cheong, Y. G., & Young, R. M. (2015). Suspenser: A story generation system for suspense. *IEEE Transactions on Computational Intelligence and AI in Games*, 7(1), 39–52. doi:10.1109/TCIAIG.2014.2323894
- Chomsky, N. (1957). *Syntactic structures*. Berlin, Germany: Mouton & Co. (Walter de Gruyter).
- Davidson, D. (1985). *Quotation*. In *Inquiries into truth and interpretation* (pp. 79–92). New York: Clarendon Press. (Original work published 1979)

Davis, R., & Lenat, D. B. (1982). *Knowledge-based system in artificial intelligence*. New York: McGraw-Hill.

Dundes, A. (1965). *The study of folklore*. Prentice Hall.

Dyer, M. G. (1983). *In-depth understanding: A computer model of integrated processing for narrative comprehension*. MIT Press. doi:10.7551/mitpress/3697.001.0001

Elson, D. K., & McKeown, K. R. (2007). A platform for symbolically encoding human narratives. In *Intelligent Narrative Technologies: Papers from the 2007 AAAI Fall Symposium, Technical Report (FS-07-05)*. Palo Alto, CA: The Association for the Advancement of Artificial Intelligence.

Endo, Y., & Ogata, T. (2002). Hyper-comic system as representation field of narrative discourse. In *Proceedings of 17th Congress of the International Association of Empirical Aesthetics* (pp. 555-558). Rome, Italy: University of Rome Tre.

Endo, Y., & Ogata, T. (2003). Hyper-comic system as consideration of rhetoric. In *Proceedings of the 4th International Conference on Cognitive Science* (pp. 111-116). Oakbrook Terrace, IL: Cognitive Science Society.

Endo, Y., & Ogata, T. (2004). A rhetorical analysis of a Japanese comic for hyper-comic system. In *Proceedings of 18th Congress of the International Association of Empirical Aesthetics* (pp. 502-508). Rome, Italy: University of Rome Tre.

Fendt, M. W., & Young, R. M. (2014). Adapting IRIS, a non-interactive narrative generation system, to an interactive text adventure game. In *Proceedings of the 27th International Florida Artificial Intelligence Research Society Conference* (pp. 244-249). Palo Alto, CA: Association for the Advancement of Artificial Intelligence.

Flaubert, G. (1869). *L'Éducation sentimentale*. Paris: Michel Lévy frères.

Flaubert, G. (1869). *Madame Bovary*. Paris: Michel Lévy frères.

Freedman, J., & Comb, G. (1996). *Narrative therapy: The social construction of preferred realities*. New York: Haddon Craftsmen.

Freud, S. (1900). *Die Traumdeutung*. Leipzig, Germany: Franz Deuticke.

Freud, S. (1940). *Gesammelte werke*. Oxfordshire, UK: Imago Publishing.

Narratology and Post-Narratology

Fujii, S. (2004). *Monogatari riron kōgi* [Lectures on the theory of narrative]. Tokyo, Japan: Tokyo Daigaku Shuppankai.

Genette, G. (1972). *Discours du récit, Essai de méthode, Figures III*. Paris: Seuil.

Genette, G. (1982). *Palimpsestes: La littérature au second degré*. Paris: Seuil.

Genette, G. (1983). *Nouveau discours du récit*. Paris: Seuil.

Genji Monogatari. (1993). In *Shin nihon koten bungaku taikai, 19* [New Japanese classic literature collection, 19]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1994). In *Shin nihon koten bungaku taikai, 20* [New Japanese classic literature collection, 20]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1995). In *Shin nihon koten bungaku taikai, 21* [New Japanese classic literature collection, 21]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1996). In *Shin nihon koten bungaku taikai, 22* [New Japanese classic literature collection, 22]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1997). In *Shin nihon koten bungaku taikai, 23* [New Japanese classic literature collection, 23]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Gervás, P. (2013a). Stories from games: Content and focalization selection in narrative composition. *Proceedings of I Spanish Symposium on Entertainment Computing. Madrid, Spain: Group of Artificial Intelligence Applications (GAIA)*.

Gervás, P. (2013b). Propp's morphology of the folk tale as a grammar for generation. In *Proceedings of 2013 Workshop on Computational Models of Narrative* (pp. 106-122). Dagstuhl, Germany: Dagstuhl Research Online Publication Server (DROPS).

- Gervás, P., Lönneker-Rodman, B., Meister, J. C., & Peinado, F. (2006). Narrative models: Narratology meets artificial intelligence. In *Proceedings of Satellite Workshop: Toward Computational Models of Literary Analysis, 5th International Conference on Language Resources and Evaluation* (pp. 44-51). Paris: European Language Resources Association offices.
- Gonzalez-Rico, D. (2018). *Contextualize, show and tell: A neural visual storyteller*. Ithaca, NY: Cornell University.
- Grasbon, D., & Braun, N. (2001). A morphological approach to interactive storytelling. In *Proceedings of CAST 2001, Living in Mixed Realities: Conference on Artistic, Cultural and Scientific Aspects of Experimental Media Spaces* (pp. 337-340). netzspannung.org.
- Greimas, A. J. (1966). *Sémantique structurale: Recherché de method*. Paris: Larousse.
- Guan, J., Wang, Y., & Huang, M. (2018). *Story ending generation with incremental encoding and commonsense knowledge*. Ithaca, NY: Cornell University.
- Hartsook, K., Zook, A., Das, S., & Riedl, M. O. (2011). Toward supporting stories with procedurally generated game worlds. In *Proceedings of 2011 IEEE Conference on Computational Intelligence and Games* (pp. 297-304). New York: Institute of Electrical and Electronics Engineers. 10.1109/CIG.2011.6032020
- Hasegawa, C. (2015). *Monogatariukoto to <watakushi>—Shinri ryōhō ni okeru monogatari no kanōsei* [Narrating and <I>: The possibilities of narrative in psychotherapy]. Osaka, Japan: Sōgensha.
- Hasumi, S. (1979). *Eizō no shigaku* [Poetics of the film]. Tokyo, Japan: Chikuma Shobō.
- Hasumi, S. (1985). *Monogatari hihan josetsu* [An introduction to narrative criticism]. Tokyo, Japan: Chūōkōronsha.
- Hasumi, S. (2014). *“Bovary fujin” ron* [A theory of “Madam Bovary”]. Tokyo, Japan: Chikuma Shobō.

Hecht, B., Starosielski, N., & Dora-Abrams, D. (2007). Generating educational tourism narratives from Wikipedia. In *Intelligent Narrative Technologies: Papers from the 2007 AAAI Fall Symposium, Technical Report (FS-07-05, pp. 37-44)*. Palo Alto, CA: The Association for the Advancement of Artificial Intelligence.

Heike Monogatari. (1991). In *Shin nihon koten bungaku taikai, 44* [New Japanese classic literature collection, 44]. Tokyo, Japan: Iwanami Shoten. (Original work published the Kamakura era)

Heike Monogatari. (1993). *Shin nihon koten bungaku taikai, 45* [New Japanese classic literature collection, 45]. Tokyo, Japan: Iwanami Shoten. (Original work published the Kamakura era)

Herman, D. (2000). Narratology as a cognitive science. *Image and Narrative, 1*(1).

Herman, D. (2003). *Narrative theory and the cognitive sciences*. CSLI.

Hiramatsu, M., & Ogata, T. (2008). The rhetoric of sound effect and its use in narrative generation. In *Proceedings of the 22nd Annual Conference of the Japanese Society for Artificial Intelligence (1C2-6)*. Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Hobbs, J. R. (1990). *Literature and cognition*. CSLI.

Hori, K. (2005). Do knowledge assets really exist in the world and can we access such knowledge?: Knowledge evolves through a cycle of knowledge liquidization and crystallization. *Lecture Notes in Computer Science, 3359*, 1–13. doi:10.1007/978-3-540-32279-5_1

Hori, K. (2007). *Sōzō katsudō shien system no riron to ōyō* [Theories and applications of creative activity aid]. Tokyo, Japan: Ohmsha.

Hosaka, Y., & Ogata, T. (2002). Story generation based on narratology and representation with CG animation. In *Proceedings of the 17th Congress of the International Association of Empirical Aesthetics* (pp. 561-564). Rome, Italy: University of Rome Tre.

Hoshino, J. (2004). Storytelling and AI. *Transactions of the Japanese Society for Artificial Intelligence, 19*(1), 29–34.

Hovy, E. H. (1993). Automated discourse generation using discourse structure relations. *Artificial Intelligence*, 63(1-2), 341–386. doi:10.1016/0004-3702(93)90021-3

Huang, Q., Gan, Z., Celikyilmaz, A., Wu, D., Wang, J., & He, X. (2018). *Hierarchically structured reinforcement learning for topically coherent visual story generation*. Ithaca, NY: Cornell University.

Igarashi, K., Ito, T., & Ogata, T. (2017). *Haiku* generation using deep learning based on words and characters. In *Proceedings of the 56th Special Interest Group on Language Sense Processing Engineering* (pp. 33-34). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Igarashi, K., Ito, T., & Ogata, T. (2018). Shinsō gakusyū niyoru *haiku* seisei no kokoromi [Attempt of *haiku* generation by deep learning]. In *Proceedings of the 57th Special Interest Group on Language Sense Processing Engineering* (pp. 35-37). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Imabuchi, S., & Ogata, T. (2012). *A story generation system based on Propp theory: As a mechanism in an integrated narrative generation system*. In *Lecture Notes in Artificial Intelligence* (Vol. 7614, pp. 312–321). Berlin, Germany: Springer.

Imabuchi, S., & Ogata, T. (2013). *Lecture Notes in Computer Science: Vol. 8210. Methods for generalizing the Propp-based story generation mechanism*. Berlin, Germany: Springer. doi:10.1007/978-3-319-02750-0_36

Imabuchi, S., & Ogata, T. (2014). Integrating the event generation mechanism in the Propp-based story generation mechanism into the integrated narrative generation system. *Journal of Robotics, Networking and Artificial Life*, 1(2), 164–168. doi:10.2991/jrnal.2014.1.2.14

Inada, K., & Inada, K. (Eds.). (2001). *Nihon mukashibanashi handbook* [Japanese folktales handbook]. Tokyo, Japan: Sanseido.

Inada, K., Ōshima, T., Kawabata, T., Fukuda, A., & Kawahara, Y. (Eds.). (1977). *Nihon mukashibanashi jiten* [Dictionary of Japanese folktales]. Tokyo, Japan: Kōbundō Shoten.

Ishizaki, S. (1988). Generating Japanese text from conceptual representation. In D. D. McDonald & L. Bole (Eds.), *Natural language generation system* (pp. 256–279). Berlin, Germany: Springer-Verlag. doi:10.1007/978-1-4612-3846-1_7

Ito, T., Ono, J., & Ogata, T. (2018a). Monogatari seisei no tame no minwa motif no riyō [Using folktale motifs for narrative generation] In *Proceedings of the 58th Special Interest Group on Language Sense Processing Engineering* (pp. 55-59). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Ito, T., Ono, J., & Ogata, T. (2018b). Using motifs of folktales for narrative generation. In *Proceedings of IEEE SMC2018 Workshop on Informational and Cultural Narratology and Cognitive Content Generation (The 59th Special Interest Group on Language Sense Processing Engineering)* (pp. 8-11). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Ito, T., Sasaki, A., & Ogata, T. (2018). Kōkoku ni kansuru Creative Genome wo mochiita CM concept *haiku* no seisei [CM concept *haiku* generation using Creative Genome of advertisement]. In *Proceedings of the 35th Annual Conference of the Japan Cognitive Science Society* (pp. 516-517). Tokyo, Japan: Japanese Cognitive Science Society.

Jauss, H. R. (1970). *Literaturgeschichte als provokation*. Frankfurt am Main: Suhrkamp Verlag.

Jhale, A., & Young, M. R. (2010). Cinematic visual discourse: Representation, generation, and evaluation. *IEEE Transactions on Computational Intelligence and AI in Games*, 2(2), 69–81. doi:10.1109/TCIAIG.2010.2046486

Kabuki noshintairon. (1998). *Iwanami kōza kabuki/bunraku, 5—Kabuki noshintairon* [Iwanami lectures kabuki/bunraku, 5: Body theories of kabuki]. Tokyo, Japan: Iwanami Shoten.

Kagerō Nikki. (1989). [Kagerō Diary]. In *Shin nihon koten bungaku taikai, 24* [New collection of Japanese classic literature, 24] (pp. 35–249). Tokyo, Japan: Iwanami Shoten.

Kanai, A. (2016). Non-story, nostalgia, and film cognition: Nostalgia-based narrative rhetoric composition. In T. Ogata & T. Akimoto (Eds.), *Computational and cognitive approaches to narratology* (pp. 376–390). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0432-0.ch015

Kanai, A. (2018a). Narrative simulation for film rhetoric composition with or without story and nostalgia effects. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 148–161). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch003

Kanai, A. (2018b). Setsudan gihō to monogatari [Cutting techniques and narratives]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 63–76). Tokyo, Japan: Hakutō Shobō.

Kanai, A. (2018c). Eizō ninchi hōryaku no kanōsei [The possibilities of image cognition methods]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 127–140). Tokyo, Japan: Hakutō Shobō.

Kanai, A. (2018d). Eizō kara story wo ninchisurukoto/shinaikoto—Ninchiteki reality no hassei youin [Recognizing/unrecognizing stories from the film: The generating factor of cognitive realities]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 141–153). Tokyo, Japan: Hakutō Shobō.

Kanai, A. (2018e). Documentary to nostalgia seisei [Documentaries and nostalgia generation]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 289–302). Tokyo, Japan: Hakutō Shobō.

Kanai, A., & Ogata, T. (2004a). Aspect of non-story processing and film rhetoric composition in the narrative generation mechanism. In *Proceedings of the 9th International Symposium on Artificial Life and Robotics* (pp. 162–165). Oita, Japan: International Society of Artificial Life and Robotics.

Kanai, A., & Ogata, T. (2004b). Non-story processing on the film rhetoric composition system. In *Proceedings of 18th Congress of the International Association of Empirical Aesthetics* (pp. 433–436). Rome, Italy: University of Rome Tre.

Kanai, T., Takai, T., Nakanishi, M., & Morioka, M. (Eds.). (2009). *Katari to katari no aida: Rashōmon teki genjitsu to ningen no responsibility* [Between narrative and imposture]. Kyoto, Japan: Nakanishiya Shuppan.

Karatani, K. (1993). *Origins of modern Japanese literature*. Durham, UK: Duke University Press. (Original work published 1980) doi:10.1215/9780822378440

Karonshū. (2002). [Collection of Essays and Theories on Waka]. In *Shinpen nihon koten bungaku zenshū*, 87 [New edition of Japanese classic literature collection, 87]. Tokyo, Japan: Shōgakukan.

Kawamura, Y. (2016). An attempt of the commercial film production support system based on the image rhetoric of commercial film. In T. Ogata & T. Akimoto (Eds.), *Computational and cognitive approaches to narratology* (pp. 117–139). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0432-0.ch004

Kawamura, Y. (2018a). Practice and modeling of advertising communication strategy: Sender-driven and receiver-driven. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 358–379). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch013

Kawamura, Y. (2018b). Shakai katei ni yoru monogatari seisei [Narrative generation based on social processes]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 77–99). Tokyo, Japan: Hakutō Shobō.

Kawamura, Y. (2018c). Kōkoku eizō no kōsei yōso, kōzō bunseki [The elements and structural analyses of advertising films]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 155–169). Tokyo, Japan: Hakutō Shobō.

Kawamura, Y. (2018d). Kōkoku eizō no image, han'nō bunseki [The images of advertising films and response analyses]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 171–185). Tokyo, Japan: Hakutō Shobō.

Kawamura, Y. (2018e). Kōkoku eizō no seisei system no kaihatu [The development of an advertising film generation system]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation] (pp. 303–325). Tokyo, Japan: Hakutō Shobō.

Kawamura, Y., & Ogata, T. (1997). The generation process of entertainment character image. In *Proceedings of the International Conference on Cognitive Science '97* (pp. 293-294). Oakbrook Terrace, IL: Cognitive Science Society.

Kawamura, Y., & Ogata, T. (2000a). *Geinō* soshiki model to image senryaku [A *geinō* organization model and the image strategies]. *Journal of Ōsaka University of Economics and Law*, 23(2), 130–164.

Kawamura, Y., & Ogata, T. (2000b). A conceptual framework on *geinō* organization model for artificial *geinō* performers with lives. In *Proceedings of the 5th International Symposium on Artificial Life and Robotics* (pp. 793-796). Oita, Japan: International Society of Artificial Life and Robotics.

Kawamura, Y., & Ogata, T. (2000c). Kasō *geinōjin* character no jinsei [Lives of virtual characters]. In Y. Kawamura, S. Hamada, & T. Ogata (Eds.), *Japanese Cognitive Science Society Technical Report (00-No. 32), Literature and Cognition/Computer 6: Language and literature*, (pp. 52-60). Academic Press.

Kawamura, Y., & Ogata, T. (2002). A trial on narrative interpretation of *geinō* information system, In *Proceedings of IEEE, International Conference on Systems, Man and Cybernetics (CD-ROM)*. Institute of Electrical and Electronics Engineers. 10.1109/ICSMC.2002.1175727

Kawatake, T. (2003). *Kabuki: Baroque fusion of the art. (F. & J., Connel Hoff, Trans.)*. Tokyo, Japan: The International House of Japan.

Kayamori, O., & Ogata, T. (2003). Analysis and scenario generation of TVCFs based on the relations between story and brand. In *Proceedings of the 17th Annual Conference of the Japanese Society for Artificial Intelligence (2G2-06)*. Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Kim, T., Heo, M.-O., Son, S., Park, K.-W., & Zhang, B.-T. (2018). *Glac net: Glocal attention cascading networks for multi-image cued story generation*. Ithaca, NY: Cornell University.

Kishimoto, N. (2015). *Neuropsychanalysis he no syōtai* [Introduction to neuropsychanalysis]. Tokyo: Seishin Shobō.

Kitaoka, S. (1998). *Bakhtin—Taiwa to carnival* [Bakhtin: Conversation and carnival]. Tokyo, Japan: Kōdansha.

Klein, S., Aeschlimann, J. F., Appelbaum, M. A., Balsiger, D. F., Curtis, E. J., Foster, M., ... Salsieder, D. F. (1974). *Modeling Propp and Levi-Strauss in a meta-symbolic simulation system. Computer Sciences Technical Report, 226*. Madison, WI: University of Wisconsin.

Kōkoku Hihyō. (Ed.). (1996). “*Kōkoku hihyō*” *no bessatsu—Satō Masahiko zen shigoto* [Separate volume of “advertisement criticism”: Satō Masahiko’s all works]. Tokyo, Japan: Madra Shuppan.

Kristeva, J. (1980). *Desire in language: A semiotic approach to literature and art*. New York: Columbia University Press. (Original work published 1969)

Kurisawa, Y., & Ogata, T. (2013). A consideration of a norm-deviation mechanism in the integrated narrative generation system. In *Proceedings of the 44th Language Sense Engineering Research Group in Japanese Artificial Intelligence Society* (pp. 25-35). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Kuroki, K. (1943). *Jōruri-shi* [The history of jōruri]. Tokyo, Japan: Seijisha.

Kurosawa, A. (Director), & Ito, M. (Producer) (1950). *Rashōmon* (Motion picture). Japan: Tōhō.

Kusunoki, K. (2010). *Story senryaku toshite no kyōsō senryaku—Sugureta senryaku no jōken* [Competitive strategy as story strategy]. Tokyo, Japan: Tōyō Keizai Shinpōsha.

Lakoff, G. P. (1972). Structural complexity in fairy tales. *The Study of Man, 1*, 124.

Lang, R. R. (1999). A declarative model for simple narratives. In *Narrative intelligence: Papers from the 1999 AAAI fall symposium, Technical Report (FS-99-01, pp. 134-141)*. Palo Alto, CA: The Association for the Advancement of Artificial Intelligence.

Laurel, B. (2013). *Computers as theatre* (2nd ed.). Boston, MA: Addison-Wesley Professional.

Lebowitz, M. (1985). Story-telling as planning and learning. *Poetics, 14*(6), 483–502. doi:10.1016/0304-422X(85)90015-4

Lem, S. (1984). *Imaginary magnitude*. Orland, FL: Harcourt Brace Jevanovich. (Original work published 1973)

Lévi-Strauss, C. (1964). *Mythologiques 1: Le cru et le cuit*. Paris: PLON.

Li, B., & Riedl, M. O. (2015). Scheherazade: Crowd-powered interactive narrative generation. In *Proceedings of the 29th AAAI conference on artificial intelligence* (pp. 4305-4306). Palo Alto, CA: The Association for the Advancement of Artificial Intelligence.

Lönneker-Rodman, B. (2005). Narratological knowledge for natural language generation. In *Proceedings of the 10th European Workshop on Natural Language Generation* (pp.91-100). Association for Computational Linguistics.

Lytard, J-F. (1979). *La condition post moderne*. Paris: Les edition de Minuit.

Magerko, B. S. (2006). *Player modeling in the interactive drama architecture* (Doctoral dissertation). University of Michigan, Ann Arbor, MI.

Martin, L. J., Ammanabrolu, P., Hancock, W., Singh, S., Harrison, B., & Riedl, M. O. (2017). Event representations for automated story generation with deep neural nets. *Proceedings of KDD 2017 Workshop on Machine Learning for Creativity*. Retrieved from http://ml4creativity.mybluemix.net/papers/MartinEtAl-Event_Representations_for_Automated_Story-camera_ready.pdf

Martin, L. J., Ammanabrolu, P., Wang, X., Hancock, W., Singh, S., Harrison, B., & Riedl, M. O. (2018). Event representations for automated story generation with deep neural nets. In *Proceedings of the 32nd AAAI Conference on Artificial Intelligence* (pp. 868-875). Palo Alto, CA: The Association for the Advancement of Artificial Intelligence.

Mateas, M., & Sengers, P. (Eds.). (2003). *Narrative intelligence*. Amsterdam, The Netherlands: John Benjamins Publishing. doi:10.1075/aicr.46

Matsuoka, S. (1992). Narrative archetypes and media. In *Proceedings of Interactive AI Symposium 92 Nagoya: New Paradigm for Artificial Intelligence—AI in Media Space* (pp. 61-66). Paris: Academic Press.

Matsutani, M. (1985). *Gendai minwa kō, 1—Kappa, tengu, kamikakushi* [Considering contemporary folktales, 1]. Tokyo, Japan: Tachikaze Shobō.

Meehan, J. R. (1980). *The metanovel: Writing stories by computer*. New York: Garland Publishing.

Miki, K. (1939). *Kōsōryoku no ronri, 1* [Logic of conceptual power, 1]. Tokyo, Japan: Iwanami Shoten.

Miki, K. (1946). *Kōsōryoku no ronri, 2* [Logic of conceptual power, 2]. Tokyo, Japan: Iwanami Shoten.

- Min, W., Ha, E. Y., Rowe, J., Mott, B., & Lester, J. (2014). Deep learning-based goal recognition in open-ended digital games. In *Proceedings on 10th Annual Conference of Artificial Intelligence and Interactive Digital Entertainment* (pp. 27-43). San Francisco, CA: AIIDE Conference.
- Minsky, M. (1975). A framework for representing knowledge. In P. H. Winston (Ed.), *The psychology of computer vision*. New York: McGraw-Hill.
- Minsky, M. (1988). *The society of mind*. New York: Touchstone Books.
- Mishima, Y. (1959). *Bunshō dokuhon* [Text reader]. Tokyo, Japan: Chūōkōronsha.
- Mishima, Y. (2000-2006). *Ketteiban Mishima Yukio zenshū, 1-42* [Complete collection Mishima Yukio, Vols.1-42]. Tokyo, Japan: Shinchōsha.
- Mita, M. (1967). *Kindai nihon no shinjō no rekishi—Ryūkōka no shakai shinri shi* [A history of people's mind in modern Japan]. Tokyo, Japan: Kōdansya.
- Mizoguchi, R. (2005). *Ontology kōgaku* [Ontology engineering]. Tokyo, Japan: Ohmsha.
- Montfort, N. (2007). *Generating narrative variation in interactive fiction* (Doctoral dissertation). University of Pennsylvania, Philadelphia, PA.
- Morita, H. (2006). Literary hyper-text conversion: Applications of computer aided text analysis. In *Proceedings of the 19th Congress of the International Association of Empirical Aesthetics* (pp. 401-405). Rome, Italy: University of Rome Tre.
- Morita, H. (2007). The inside and outside rhetoric for the literary text. In *Proceedings of 21st Annual Conference of the Japanese Society for Artificial Intelligence* (1F1-1). Tokyo, Japan: The Japanese Society for Artificial Intelligence.
- Mueller, E. T. (1990). *Daydreaming in humans and machines*. Ablex.
- Mukouyama, K., Shinohara, K., Kanai, A., & Ogata, T. (2002). Rhetorical analysis and automatic editing of the film. In *Proceedings of 17th Congress of the International Association of Empirical Aesthetics* (pp. 571-574). Rome, Italy: University of Rome Tre.
- Nagai, H. (2016). *Sonzai to jikan—Tetsugaku tankyū 1* [Existence and time]. Tokyo, Japan: Bungei Shunjū.

Nakagami, K. (1982). *Sen'nen no yuraku* [A thousand years of pleasure]. Tokyo, Japan: Kawade Shobō Shinsha.

Nakagami, K. (2004). *Fūkei no mukō he* [Beyond the landscape]. Tokyo, Japan: Tōjusha.

Nakashima, M., & Ogata, T. (2006). Narrative generation system and intertextuality: A consideration on the concept and prototype systems. In *Proceedings of the 20th Annual Conference of the Japanese Society for Artificial Intelligence* (2E2-2). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Naniwa Miyage. (1959). [Naniwa Souvenir]. Fusai Chikamatsu no gensetsu (*Naniwa miyage* hottan-sho) [Appendix Chikamatsu's discourse (The first part of *Naniwa Miyage*)]. In *Chikamatsu jōruri shū*, 2 [Chikamatsu's jōruri collection, 2] (pp. 355-359). Tokyo, Japan: Iwanami Shoten. (Original work published 1738).

Nansō Satomi Hakkenden. (2003a). In *Shinchō nihon koten shūsei, Bekkan 1* [Shinchō Japanese classic literature collection separate, Separate vol. 1]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)

Nansō Satomi Hakkenden. (2003b). In *Shinchō nihon koten shūsei, Bekkan 2* [Shinchō Japanese classic literature collection separate, Separate vol. 2]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)

Nansō Satomi Hakkenden. (2003c). In *Shinchō nihon koten shūsei, Bekkan 3* [Shinchō Japanese classic literature collection separate, Separate vol. 3]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)

Nansō Satomi Hakkenden. (2003d). In *Shinchō nihon koten shūsei, Bekkan 4* [Shinchō Japanese classic literature collection separate, Separate vol. 4]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)

Nansō Satomi Hakkenden. (2003e). In *Shinchō nihon koten shūsei, Bekkan 5* [Shinchō Japanese classic literature collection separate, Separate vol. 5]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)

Nansō Satomi Hakkenden. (2003f). In *Shinchō nihon koten shūsei, Bekkan 6* [Shinchō Japanese classic literature collection separate, Separate vol. 6]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)

- Nansō Satomi Hakkenden. (2003g). In *Shinchō nihon koten shūsei, Bekkan 7* [Shinchō Japanese classic literature collection separate, Separate vol. 7]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)
- Nansō Satomi Hakkenden. (2003h). In *Shinchō nihon koten shūsei, Bekkan 8* [Shinchō Japanese classic literature collection separate, Separate vol. 8]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)
- Nansō Satomi Hakkenden. (2004a). In *Shinchō nihon koten shūsei, Bekkan 9* [Shinchō Japanese classic literature collection separate, Separate vol. 9]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)
- Nansō Satomi Hakkenden. (2004b). In *Shinchō nihon koten shūsei, Bekkan 10* [Shinchō Japanese classic literature collection separate, Separate vol. 10]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)
- Nansō Satomi Hakkenden. (2004c). In *Shinchō nihon koten shūsei, Bekkan 11* [Shinchō Japanese classic literature collection separate, Separate vol. 11]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)
- Nansō Satomi Hakkenden. (2004d). In *Shinchō nihon koten shūsei, Bekkan 12* [Shinchō Japanese classic literature collection separate, Separate vol. 12]. Tokyo, Japan: Shinchōsha. (Original work published 1814-1842)
- Natsume, S. (2007). *Bungaku ron (I, II)* [Literary theory (I, II)]. Tokyo, Japan: Iwanami Shoten. (Original work published 1907)
- Nattiez, J. J. (1999). *Music and discourse: Toward a semiology of music*. Princeton University Press.
- Newell, A., & Simon, H. A. (1972). *Human problem solving*. Prentice Hall.
- Nishibe, S. (2006). *Socio economics*. Tokyo, Japan: Meigetsudō Shoten.
- Noma, T., Kai, K., Nakamura, J., & Okada, N. (1992). Translating from natural language story to computer animation. In *Proceedings of 1st Singapore International Conference on Intelligent Systems 92* (pp. 475-480). Singapore: Singapore International Conference on Intelligent Systems (SPICIS).
- Noya, S. (1999). *Tetsugaku, kōkainisshi* [Philosophy, ship's log]. Tokyo, Japan: Shunjūsha.

Oda, J. (2007). Re-reinvestigation of Raimundus Lullus on creativity. In *Proceedings of the 26th Language Sense Engineering Research Group in Japanese Artificial Intelligence Society* (pp. 47-51). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Ōe, K. (1979). *Dōjidai game* [The game of contemporaneity]. Tokyo, Japan: Shinchōsha.

Ogata, T. (1992). *Setsumei ni motozuku monogatari seisei system ni kansuru kenkyū* [Study on an explanation-based narrative generation system] (Master's dissertation). Tsukuba University, Tokyo, Japan.

Ogata, T. (1995). *Monogatari seisei—Monogatari no tame no gihō to senryaku ni motozuku approach* [Narrative generation: An approach based on the techniques and strategies for narratives] (Doctoral dissertation). The University of Tokyo, Tokyo, Japan.

Ogata, T. (1997). Tajū monogatari kōzō no model [A model of multiple narrative structures]. In *Proceedings of the 9th Annual Conference of Japan Simulation & Gaming Association* (pp. 107-110). Tokyo, Japan: Japan Simulation & Gaming Association.

Ogata, T. (1999). An attempt for systematization of narrative discourse theory from the viewpoint of narrative generation system. *Proceedings of IPSJ SIG Computers and the Humanities*, 99(85), 31–38.

Ogata, T. (2000). Tajū monogatari kōzō no macro model: Simulation toshite no monogatari josetsu [The macro model of multiple narrative structures: an introduction to a narrative as a simulation]. *Simulation & Gaming*, 10(1), 35–46.

Ogata, T. (2002a). Expanded literary theory: Cognitive/computational expansion of literary theories and narratology. In *Proceedings of the 17th Congress of the International Association of Empirical Aesthetics* (pp. 163-166). Rome, Italy: University of Rome Tre.

Ogata, T. (2002b). The concept of system narratology: From the viewpoint of expanded literary theory. In *Proceedings of the 3rd International Workshop of Literature in Cognition and Computer in held in PRICAI2002* (W7-1, pp. 1-10). Tokyo, Japan: Japanese Cognitive Science Society.

Ogata, T. (2002c). *Geinō jōhō system* [*Geinō information system*]. In T. Kitagawa, O. Sudo, T. Nishigaki, J. Hamada, S. Yoshimi, & S. Yonemoto (Eds.), *Jōhōgaku jiten* [Dictionary of informatics] (p. 258). Tokyo, Japan: Kōbundō.

Ogata, T. (2003a). Monogatari no tajūsei to kakuchō bungakuriron no gainen—System narratology ni mukete, I [Narrative multiplicity and the concept of expanded literary theory: Toward a system narratology, I]. In M. Yoshida (Ed.), *Fukuzatsu-kei shakai riron no shin chihei* [New paradigm of complex social system theory] (pp. 127–181). Tokyo, Japan: Senshu Daigaku Shuppankyoku.

Ogata, T. (2003b). Kakuchō bungakuriron no kokoromi—System narratology ni mukete, II [Attempts of expanded literary theory: Toward a system narratology II]. In M. Yoshida (Ed.), *Fukuzatsu-kei shakai riron no shin chihei* [New paradigm of complex social system theory] (pp. 309–356). Tokyo, Japan: Senshu Daigaku Shuppankyoku.

Ogata, T. (2007). To the rhetoric of story from Propp: Centering around the rhetoric of de-composition and re-composition. *Cognitive Studies*, 14(4), 532–558.

Ogata, T. (2010a). “Monogatari seisei system” no haikei oyobi monogatari to bungaku no aida [Backgrounds of the narrative generation system and the relationships between narrative and literature]. In T. Ogata & A. Kanai (Eds.), *Monogatariiron no jōhogaku josetsu—Monogatari seisei no shisō to gijutsu wo megutte* [An introduction to the informatics of narratology: Around the thoughts and technologies of narrative generation] (pp. 186–258). Tokyo, Japan: Gakubunsha.

Ogata, T. (2010b). Monogatari seisei system no taikyoku-teki kekkō—Monogatari no gijutsu to keiei heno jo [The macro architecture of a narrative generation system: An introduction to narrative technology and management]. In T. Ogata & A. Kanai (Eds.), *Monogatariiron no jōhogaku josetsu—Monogatari seisei no shisō to gijutsu wo megutte* [An introduction to the informatics of narratology: Around the thoughts and technologies of narrative generation] (pp. 259–340). Tokyo, Japan: Gakubunsha.

Ogata, T. (2010c). Shōsetsu—Ryūdō to kotei, sakuhin no hō he [Novels: Fluidity and fixation, toward works]. In T. Ogata & A. Kanai (Eds.), *Monogatariiron no jōhōgaku josetsu—Monogatari seisei no shisō to gijutsu wo megutte* [An introduction to informatics of narratology: Around the thoughts and technologies of narrative generation] (pp. 130–169). Tokyo, Japan: Gakubunsha.

Ogata, T. (2014). Expanded literary theory for automatic narrative generation. In *Proceedings of Joint 7th International Conference on Soft Computing and Intelligent Systems and 15th International Symposium on Advanced Intelligent Systems* (pp. 1558-1563). Tokyo, Japan: Japan Society of Fuzzy Theory and Intelligent Informatics.

Ogata, T. (2016). Computational and cognitive approaches to narratology from the perspective of narrative generation. In T. Ogata & T. Akimoto (Eds.), *Computational and cognitive approaches to narratology* (pp. 1–73). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0432-0.ch001

Ogata, T. (2018). An integrated approach to narrative generation: From Mishima and *kabuki* to narrative generation systems. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 49–147). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch002

Ogata, T. (2019). A computational, cognitive, and narratological approach to narrative generation. In T. Ogata & T. Akimoto (Eds.), *Post-narratology through computational and cognitive approaches* (pp. 1–84). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-7979-3.ch001

Ogata, T. (in press). *Internal and external narrative generation based on post-narratology: Emerging research and opportunities*. Hershey, PA: IGI Global.

Ogata, T., & Akimoto, T. (2007). Towards the circular narrative generation based on the correspondences between language-based narrative and music: Systems development based on narrative rhetoric and fundamental considerations about the systems and the circular narrative generation. *Cognitive Studies*, 14(3), 355–379.

Ogata, T., & Akimoto, T. (Eds.). (2016). *Computational and cognitive approaches to narratology*. Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0432-0

Ogata, T., & Akimoto, T. (Eds.). (2019). *Post-narratology through computational and cognitive approaches*. Hershey, PA: IGI Global. doi:10.4018/978-1-5225-7979-3

Ogata, T., & Amino, T. (2002a). Tajū monogatari kōzō to *geinō* character no monogatari seisei system [Multiple narrative structures and the narrative generation system of *geinō* characters]. In *Proceedings of the 19th Annual Conference of the Japan Cognitive Science Society* (pp. 130-131). Tokyo, Japan: Japanese Cognitive Science Society.

Ogata, T., & Amino, T. (2002b). Narrative simulation system for *geinō* characters. In *Abstracts of Annual Conference of Japan Society for Management Information 2002 Spring* (p. 31). Tokyo, Japan: Japan Society for Management Information.

Ogata, T., Arai, T., & Ono, J. (2016). Using synthetically collected scripts for story generation. In *Proceedings of The 26th International Conference on Computational Linguistics: System Demonstrations* (pp. 253-257). International Committee on Computational Linguistics.

Ogata, T., & Asakawa, S. (Eds.). (2018a). *Content generation through narrative communication and simulation*. Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4

Ogata, T., & Asakawa, S. (2018b). Aspects of content generation through narrative communication and simulation. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 1–47). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch001

Ogata, T., Hori, K., & Ohsuga, S. (1996). A basic framework for narrative conceptual structure generation based on narrative techniques and strategies. *Jinkō Chinō Gakkaishi*, 11(1), 148–159.

Ogata, T., & Hosaka, Y. (2004). Transformation of story in the story generation system based on narratology. In *Proceedings of the 9th International Symposium on Artificial Life and Robotics* (Vol. 2, pp. 593-596). Oita, Japan: International Society of Artificial Life and Robotics.

Ogata, T., Imabuchi, S., & Akimoto, T. (2014). Narratology and narrative generation: Expanded literary theory and the Integration as a narrative generation system (2). In *Proceedings of the 5th Augmented Human International Conference* (P-10). New York: ACM Digital Library. 10.1145/2582051.2582077

Ogata, T., & Kanai, A. (2010). *Monogatariiron no jōhōgaku josetsu—Monogatari seisei no shisō to gijutsu womegutte* [An introduction to informatics of narratology: Around the thoughts and technologies of narrative generation]. Tokyo, Japan: Gakubunsha.

Ogata, T., Kawamura, Y., & Kanai, A. (2018). *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation]. Tokyo, Japan: Hakutō Shobō.

Ogata, T., Tachibana, S., & Tomite, S. (2009). Animated movie generation from narrative conceptual representation and the automatic camerawork: Analysis and simulation of “Tokyo Story.” In *Proceedings of the 26th Annual Meeting of the Japanese Cognitive Science Society* (P2-32). Tokyo, Japan: Japanese Cognitive Science Society.

Ogata, T., & Terano, T. (1991). Explanation-based narrative generation using semiotic theory. In *Proceedings of Natural Language Processing Pacific Rim Symposium* (pp. 321-328). Tokyo, Japan: Special Interest Group of Natural Language Processing of Information Processing Society of Japan.

Ogata, T., & Terano, T. (1992). Plot generation and expansion in explanation-based narrative generator. In *Proceedings of the 1st Singapore International Conference on Intelligent Systems* (pp. 549-554). Singapore: Singapore International Conference on Intelligent Systems (SPICIS).

Ogata, T., Watanabe, K., Hori, K., & Ohsuga, S. (1995). A basic framework of the application of narrative generation system for integrated support of marketing/advertisement. *Journal of the Japan Society for Management Information*, 4(1), 19–42.

Ogata, T., & Yamakage, S. (2004). A computational mechanism of the “distance” in narrative: A trial in the expansion of literary theory. In *Proceedings of the 8th World Multiconference on Systemics, Cybernetics and Informatics* (pp. 179-184). Winter Garden, FL: World Multiconference on Systemics, Cybernetics and Informatics.

Ogata, T., & Yazawa, K. (1999). Bakhtin literary theory and structure of novels as artificial society simulation. In *Proceedings of the 2nd International Conference on Cognitive Science and the 16th Annual Meeting of the Japanese Cognitive Science Society Joint Conference* (pp. 950-953). Tokyo, Japan: Japanese Cognitive Science Society.

Oikawa, H., & Ogata, T. (2012). On the narrative generation as a mutual cognition mechanism among characters. In *Proceedings of the 29th Annual Meeting of the Japanese Cognitive Science Society* (pp. 540-549). Tokyo, Japan: Japanese Cognitive Science Society.

Okada, N., & Endo, T. (1992). Story generation based on dynamics of the mind. *Computational Intelligence*, 8(1), 123–160. doi:10.1111/j.1467-8640.1992.tb00341.x

Okui, R. (2015). *Waza wo ikirushintai—Ningyō tsukai to keiko no rinshō kyōikugaku* [A body with skills: The clinical pedagogy of ningyō tsukai and training]. Kyoto, Japan: Minerva Shobō.

Ono, J., & Ogata, T. (2018a). Acquiring short scripts and setting a case frame in each acquired script: toward random story generation. In *Proceedings of the 2018 International Conference on Artificial Life and Robotics* (pp. 663-667). Oita, Japan: International Conference on Artificial Life and Robotics.

Ono, J., & Ogata, T. (2018b). Surprise-based narrative generation in an automatic narrative generation game. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 162–185). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch004

Ono, J., Sasaki, A., Ito, T., & Ogata, T. (2018). Creative Genome no parameter ni motozuku Kōkoku story seisei ni mukete [Toward advertising story generation based on the parameters of Creative Genome] In *Proceedings of the 58th Special Interest Group on Language Sense Processing Engineering* (pp. 55-59). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Ono, J., Sasaki, A., & Ogata, T. (2019). A Consideration of a method for narrative generation based on the analysis of CMs: Toward the organic combination between an integrated narrative generation system and “Creative Genome”. In *Proceeding of the 61st Special Interest Group on Language Sense Processing Engineering* (pp. 39-46). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Ōura, K. (Ed.). (2017). *Nihon no bungaku riron—Anthology* [Japanese literary theories: Anthology]. Tokyo, Japan: Suiseisha.

Ozawa, T. (Ed.). (1976). *Nihonjin to minwa* [Japanese and the folktale]. Tokyo, Japan: Gyōsei.

- Ozawa, T. (Ed.). (1997). *Mukashibanashi nyūmon* [A introduction to the folktale]. Tokyo, Japan: Gyōsei.
- Ozawa, T. (1999). *Mukashibanashi no gohō* [The narrative grammar of the folktale]. Tokyo, Japan: Fukuinkan Shoten.
- Ozu, Y. (Director), & Yamamoto, T. (Producer) (1953). *Tokyo monogatari* [Tokyo story] [Motion picture]. Japan: Shōchiku.
- Panksepp, J. (1998a). *Emotions and psychopathology*. New York: Plenum Press.
- Panksepp, J. (1998b). *Affective neuroscience: The foundations of human and animal emotions*. New York: Oxford University Press.
- Peinado, F., & Gervás, P. (2005). Creativity issues in plot generation. In *Workshop on Computational Creativity, Working Notes, 19th International Joint Conference on A.I.* (pp. 45-52). Berlin, Germany: Springer.
- Pemberton, L. (1989). A modular approach to story generation. In *Proceedings of the 4th Conference on European Chapter of the Association for Computational Linguistics* (pp. 217-224). Association for Computational Linguistics.
- Pérez y Pérez, R. (1999). *A computer model of creativity of writing* (Doctoral dissertation). The University of Sussex, Brighton, UK.
- Pérez y Pérez, R., & Sharples, M. (2001). MEXICA: A computer model of a cognitive account of creative writing. *Journal of Experimental & Theoretical Artificial Intelligence*, 13(2), 119–139. doi:10.1080/09528130010029820
- Powers, R. (1995). *Galatea 2.2*. New York: Harper Perennial.
- Prince, G. (1982). *Narratology*. Walter de Gruyter. doi:10.1515/9783110838626
- Prince, G. (2003). *A dictionary of narratology* (Revised edition). University of Nebraska Press.
- Propp, V. Y. (1968). *Morphology of the folktale* (L. Scott, Trans.). Austin, TX: University of Texas Press. (Original work published 1928)
- Propp, V. Y. (2012). *Russian folktale by Vladimir Yakovlevich Propp* (S. Forrester, Trans.). Detroit, MI: Wayne State University Press. (Original work published 1984)

Narratology and Post-Narratology

Proust, M. (2003). *In search of lost time* (T. Kilmartin, Trans.). New York: Modern Library. (Original work published 1913-1927)

Quillian, M. (1968). Semantic memory. In M. Minsky (Ed.), *Semantic information processing* (pp. 227–270). Cambridge, MA: MIT Press.

Reiter, E., & Dale, R. (2006). *Building natural language generation systems: Studies in natural language processing*. London, UK: Cambridge University Press.

Riedl, M. O., Saretto, C. J., & Young, R. M. (2003). Managing interaction between users and agents in a multi-agent storytelling environment. In *Proceedings of the 2nd International Joint Conference on Autonomous Agents and Multiagent Systems* (pp. 741-748). Berlin, Germany: Springer. 10.1145/860575.860694

Riedl, M. O., & Young, R. M. (2006). From linear story generation to branching story graphs. *IEEE Computer Graphics and Applications*, 26(3), 23–31. doi:10.1109/MCG.2006.56 PMID:16711214

Riesbeck, C. K., & Schank, R. C. (1989). *Inside case-based reasoning*. Lawrence Erlbaum.

Rowe, J. P., McQuiggan, S. W., Robison, J. L., Marcey, D. R., & Lester, J. C. (2009). STORYEVAL: An empirical evaluation framework for narrative generation. In *Intelligent Narrative Technologies II: Papers from the 2009 AAAI Spring Symposium, Technical Report* (SS-09-06, pp. 103-110). Palo Alto, CA: The Association for the Advancement of Artificial Intelligence.

Rumelhart, D. E. (1975). Notes on a schema for stories. In D. G. Bobrow & A. Collins (Eds.), *Representation and understanding: Studies in cognitive science*. Academic Press. doi:10.1016/B978-0-12-108550-6.50013-6

Saito, Y., & Ogata, T. (1998). On the computational modeling of Freud's dream theory. In *Proceedings of the 12rd Annual Conference of the Japanese Society for Artificial Intelligence* (pp. 706-706). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Sakuma, T., & Ogata, T. (2005). Story generation support system used the story theory of Propp. In *Proceedings of the 19th Annual Conference of the Japanese Society for Artificial Intelligence* (3D3-04). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Sasaki, A. (2017). Creative genome project ni tuite [About Creative genome project]. In *Proceeding of the 56th Special Interest Group on Language Sense Processing Engineering*. (pp. 12-32). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Sasaki, A. (2018). About 'creative genome project' and relevant intelligence communication consortium. In *Proceeding of the 32nd Annual Conference of the Japanese Society for Artificial Intelligence (2H3-NFC-4a-03)*. Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Saussure, F. (1983). *Course in general linguistics* (C. Bally & A. Sechehaye, Eds., Harris R., Trans.). La Salle, IL: Open Court. (Original work published 1949)

Schank, R. C. (1982). *Dynamic memory: A theory of learning in computers and people*. Cambridge, UK: Cambridge University Press.

Schank, R. C. (1986). *Explanation patterns: Understanding mechanically and creativity*. Lawrence Erlbaum.

Schank, R. C. (1990). *Tell me a story*. New York: Scribners.

Schank, R. C., & Abelson, R. P. (1977). *Scripts, plans, goals, and understanding: An inquiry into human knowledge structures*. Lawrence Erlbaum.

Schank, R. C., & Riesbeck, C. K. (1981). *Inside computer understanding*. Lawrence Erlbaum.

Seiyama, K. (1995). *Seidoron no kōzu* [A framework of institution theory]. Tokyo, Japan: Sōbunsha.

Seki, K. (1957). *Mukashibanashi to shōwa* [Folktales and funny stories]. Tokyo, Japan: Iwasaki Shoten.

Seki, K. (1966). *Mukashibanashi no rekishi* [The history of the folktale]. Tokyo, Japan: Shibundō.

Seki, K. (1977). *Nihon no mukashibanashi—Hikaku kenkyū jōsetsu* [Japanese folktales: A introduction to comparative study]. Tokyo, Japan: Nihon Hōsō Shuppan Kyōkai (NHK Shuppan).

Seki, K., Nomura, J., & Ōshima, H. (Eds.). (1979). *Nihon mukashibanashi taisei—12, kenkyū hen* [Complete collection of Japanese folktales: Vol. 12, researches]. Tokyo, Japan: Kadokawa Shoten.

Narratology and Post-Narratology

- Seki, K., Nomura, J., & Ōshima, H. (Eds.). (1980). *Nihon mukashibanashi taisei—11, shiryō hen* [Complete collection of Japanese folktales: Vol. 11, data]. Tokyo, Japan: Kadokawa Shoten.
- Sharples, M. (1996). An account of writing as creative design. In C. M. Levy & S. Ransdell (Eds.), *The science of writing: Theories, methods, individual difference and applications* (pp. 127–148). Lawrence Erlbaum.
- Shiller, R. J. (2017). *Narrative economics*. Cowles Foundation Discussion Paper. 2069.
- Shklovsky, V. (1990). *Theory of prose* (B. Sher, Trans.). Dalkey Archive Press. (Original work published 1925)
- Smith, A. (1759). *Theory of moral sentiments*. London, UK: Andrew Milla. doi:10.1093/oseo/instance.00042831
- Smith, A. (1776). *An inquiry into the nature and causes of the wealth of nations*. W. Strahan and T. Cadell.
- Smith, A. (1971). *Lectures on rhetoric and belles lettres*. Southern Illinois University Press. (Original work published 1762)
- Smith, S., & Bates, J. (1989). *Towards a theory of narrative for interactive fiction*. Technical Report CMU-CS-89-121. Pittsburgh, PA: Carnegie Mellon University.
- Solms, M. (1997). *The neuropsychology of dreams: A clinic-anatomical study*. London, UK: Psychology Press.
- Sophokles. (1994). *Oedipus tyrannus*. In *Ajax, Electra, Oedipus tyrannus* (H. Lloyd-Jones, Trans.). Cambridge, MA: Harvard University Press. (Original work published c. 429 BC)
- Stam, R., Burgoyne, R., & Flitterman-Lewis, S. (1992). *New vocabularies in film semiotics: Structuralism, post-structuralism and beyond*. London, UK: Routledge.
- Stockwell, P. (2002). *Cognitive poetics: An introduction*. London, UK: Routledge.
- Sugiyama, S. (2004). *Jōruri shirōto kōshaku (1, 2)* [Jōruri amateur's lecture (1, 2)]. Tokyo, Japan: Iwanami Shoten. (Original work published 1926)
- Swift, J. (1726). *Gulliver's travels*. London, UK: Benjamin Motte.

Szilas, N. (2010). Requirements for computational models of interactive narrative. In *Computational Models of Narrative: Papers from the 2010 AAAI Fall Symposium, Technical Reports* (FS-10-04, pp. 62-68). Palo Alto, CA: The Association for the Advancement of Artificial Intelligence.

Tambwekar, P., Dhuliawala, M., Martin, L. J., Mehta, A., Harrison, B., & Riedl, M. O. (2019). Controllable neural story plot generation via reward shaping. In *Proceedings of the 28th International Joint Conference on Artificial Intelligence* (pp. 5982-5988). International Joint Conference on Artificial Intelligence Organization. 10.24963/ijcai.2019/829

Tarasti, E. (1994). *A theory of musical semiotics*. Bloomington, IN: Indiana University Press.

Thawonmas, R., Oda, K., & Shuda, T. (2009). Camerawork editor for automatic comic generation from game log. In *NICOGRAPH International 2009* (V-3).

Todorov, T. (1978). *Les genres du discours*. Paris: Le Seuil.

Tokosumi, A. (2007). *Kokoro no keisan riron, Kaitei-ban* [Computational theories of mind, Revised edition]. Tokyo, Japan: Tokyo Daigaku Shuppankai.

Tsuchihashi, S., & Ogata, T. (2009). Toward the narrative generation by quotations and anagram. In *Proceedings of the 23rd Annual Conference of the Japanese Society for Artificial Intelligence* (1J1-OS2-2). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Turner, S. R. (1994). *The creative process: A computer model of storytelling and creativity*. Lawrence Erlbaum.

Ueda, K., & Ogata, T. (2004a). Classification and Combination of Perspective in Narrative. In *Proceedings of the 9th International Symposium on Artificial Life and Robotics* (Vol. 2, pp. 597-600). Oita, Japan: International Conference on Artificial Life and Robotics.

Ueda, K., & Ogata, T. (2004b). A computational modeling of perspective and voice in the narrative rhetoric. In *Proceedings of the 18th Congress of the International Association of Empirical Aesthetics* (pp. 480-486). Rome, Italy: University of Rome Tre.

Uno, Y. (2015). *Mukashibanashi no ningengaku—Inochi to tameshii no tsutaekata* [Anthropology of the folktale]. Kyoto, Japan: Nakanishiya Shuppan.

Narratology and Post-Narratology

Utsumi, A. (2018). Literary metaphor comprehension and production: A unified view. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 310–327). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch010

Utsumi, A., Nakamura, K., & Sakamoto, M. (2012). Effects of discourse goals on the process of metaphor production. In *Proceedings of the 34th Annual Meeting of the Cognitive Science Society* (pp. 2475-2480). Tokyo, Japan: Japanese Cognitive Science Society.

Veblen, T. B. (1922). *The engineers and the price system*. New York: B. W. Huebsch.

Wang, J., Fu, J., Tang, J., Li, Z., & Mei, T. (2018). Show, reward and tell: Automatic generation of narrative paragraph from photo stream by adversarial training. In *Proceedings of the 32nd AAAI Conference on Artificial Intelligence* (pp. 7396-7403). Palo Alto, CA: The Association for the Advancement of Artificial Intelligence.

Wang, T., & Wan, X. (2019). T-CVAE: Transformer-based conditioned variational autoencoder for story completion. In *Proceedings of the 28th International Joint Conference on Artificial Intelligence* (pp. 5233-5239). International Joint Conference on Artificial Intelligence Organization. 10.24963/ijcai.2019/727

Watanabe, N. (2012). *Nihon shōsetsu gijutsushi* [A history of technologies of Japanese novels]. Tokyo, Japan: Shinchōsha.

Watanabe, N. (2017). *Nihon hihyō taizen* [Complete collection of Japanese critique]. Tokyo, Japan: Kawade Shobō Shinsha.

Watanabe, T. (1991). *Nihon no buyō* [Japanese dances]. Tokyo, Japan: Iwanami Shoten.

Winston, P. H. (2012). The right way. *Advances in Cognitive Systems, 1*, 23–36.

Yanagita, K. (2016). *Tōno monogatari* [Tōno story]. Tokyo, Japan: Shinchōsha. (Original work published 1910)

Yokomitsu, R. (1931). *Kikai* [Machine]. Tokyo, Japan: Hakuishisha.

Yokomitsu, R. (1986). Junsui shōsetsu ron [Pure novel theory]. In *Showa bungaku zensyū, 5* (pp. 606–614). Tokyo, Japan: Shōgakukan. (Original work published 1935)

Yomota, I. (2007). *Nihon eiga to sengo no shinwa* [Japanese movies and the myth of the post-war]. Tokyo, Japan: Iwanami Shoten.

Yoshimoto, T. (1965). *Gengo ni totte bi toha nanika* [What is beauty for language?]. Tokyo, Japan: Keisō Shobō.

Yoshimoto, T. (1968). *Kyōdō gensō ron* [On communal illusion]. Tokyo, Japan: Kawade Shobō Shinsha.

Yoshimoto, T. (1971). *Shinteki genshōron josetsu* [A theory of mental phenomena: An introduction]. Tokyo, Japan: Hokuyōsha.

Yoshimoto, T. (1984). *Mass image ron* [Essays on mass images]. Tokyo, Japan: Fukutake Shoten.

Yoshimoto, T. (1989). *High image ron, 1* [Essays on high images, 1]. Tokyo, Japan: Fukutake Shoten.

Yoshimoto, T. (1990). *High image ron, 2* [Essays on high images, 2]. Tokyo, Japan: Fukutake Shoten.

Yoshimoto, T. (2008). *Shinteki genshōron honron* [A theory of mental phenomena: Main issues]. Tokyo, Japan: Bunka Kagaku Kōtō Kenkyūin Shuppanyoku.

Zeami Zenchiku. (1974). In *Nihon shisō taikai, 24* [Japanese philosophical thoughts collection, 24]. Tokyo, Japan: Iwanami Shoten.

Zhang, Y., Ono, J., & Ogata, T. (2011). An advertising rhetorical mechanism for single event combined with conceptual dictionary in narrative generation system. In *Proceedings of the 7th International Conference on Natural Language Processing and Knowledge Engineering* (pp. 340-343). New York: The Institute of Electrical and Electronics Engineers. 10.1109/NLPKE.2011.6138221

Zhang, Y., Ono, J., & Ogata, T. (2012). Single event and scenario generation based on advertising rhetorical techniques using the conceptual dictionary in narrative generation system. In *Proceedings of the 4th IEEE International Conference on Digital Game and Intelligent Toy Enhanced Learning* (pp. 162-164). New York: The Institute of Electrical and Electronics Engineers. 10.1109/DIGITEL.2012.46

Zola, E. (1880). *Le roman experimental*. Paris: Charpentier.

Chapter 4

Theoretical or Philosophical Considerations for an Integrated Narrative Generation Approach

ABSTRACT

Although narrative philosophy or thought is the fundamental concept supporting this study, a point different from the previous studies relating to narrative philosophy is that this study aims to make products in the technological field of narrative generation systems instead of philosophy or thought about narrative itself. From the viewpoint of philosophy or thought, the narrative generation systems are applications. In contrast, from the goal of narrative generation systems, philosophy or thought corresponds to a kind of strategic framework for establishing the vision, strategy, and direction. In particular, the first philosophical concept is “multiple narrative structures.” Next, the author addresses the following three concepts: “circular narrative control,” “fluidity and fixation,” and “norm and deviation.” They are not concepts that are respectively individual. These philosophical concepts build the dynamic characteristics of narrative generation through their interrelationships.

INTRODUCTION

As mentioned previously, one aspect of the narrative generation study in this book is the systematic and synthetic characteristic. Generally, systematic features of academic fields are supported by corresponding ways of thinking

DOI: 10.4018/978-1-5225-9693-6.ch004

Copyright © 2020, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

and philosophies or by fundamental or background information about a research object. Of course, an extreme purpose is not the construction of thought and the philosophy of narrative, but the technological implementation of the social development of narrative generation systems. In this chapter, first, **BACKGROUND: RELATED PHILOSOPHICAL ASPECTS IN NARRATOLOGY AND LITERARY THEORIES** shows various previous examples regarding narrative-related philosophies and thoughts.

Next, in **A THEORETICAL FRAMEWORK FOR THE SYNTHETIC COMPREHENSION OF NARRATIVE GENERATION: MULTIPLE NARRATIVE STRUCTURES MODEL AND EXPANDED LITERARY THEORY**, the author introduces the two most basic and closely related philosophical ideas for narrative generation: the multiple narrative structures model and expanded literary theory. This section explains them in detail and concretely. Another viewpoint on the expanded literary theory is also discussed in the section of **Expanded Literary Theory Seen from Another Perspective: Technology and Management in Narrative Generation**.

CONCEPTS FOR DYNAMIC NARRATIVE GENERATION PROCESSES discusses the dynamic features in a narrative generation process through the following three philosophical concepts: “circular narrative control,” “normative and deviation,” and “fluidity and fixation.” First, the concept of circular narrative control means that a narrative generation is cyclically performed and indicates the flexibility and freeness of generation order. The normative and deviated generations also form the dynamism of narrative generation. The concept of fluidity and fixation shows that a narrative generation process is performed between fluid generation and fixed texts. In summary, circular narrative control means the circular continuation of narrative generation through various types of information; fluidity and fixation and normative and deviation mean the change of weighting in the continuous circulation. The author intends to consider the dynamics of narrative generation by their combination. Furthermore, the author discusses plural strategies in narrative generation in the section of **PLURAL STRATEGIES IN NARRATIVE GENERATION AS A SYNTHETIC DISCUSSION**, as the last philosophical idea presented here to support the author’s narrative generation study. Although it can be positioned as part of the multiple narrative structures model, it gets an independent section in this chapter.

BACKGROUND: RELATED PHILOSOPHICAL ASPECTS IN NARRATOLOGY AND LITERARY THEORIES

As described in the previous chapters, the interdisciplinary study of narrative generation, which is called post-narratology in Chapter 3, stems from a background of narratology and literary theories. Narratology and literary theories provide technological methodologies for narrative and literature. At the same time, they also provide methodologies for approaching how humans recognize the world. In particular, narratology and literary theories originally had a philosophical orientation. This section considers them from the philosophical perspective.

In addition, many philosophies related to narratives exist, other than the topics in described in the following sentences. In particular, the following description does not include the narrative studies by Paul Ricoeur (1913-2005) (1990); historical narratologies by Arthur Danto (1924-2013) (1965), Hayden White (1928-2018) (1973), and Noe (1996, 2007); or fictional world theories (Noya, 1999; Nagai, 2016). In the future, the author plans to provide a more detailed introduction that includes these topics and the knowledge of Japanese literature and *geinō* to discuss original narrative philosophy and thought.

Plato and Aristotle

Gérard Genette (1930-2018) (1972) referred to the problem relating to confrontation between mimesis (narrative discourse by imitation) and diegesis (pure narrative discourse) by Plato (427-347 BC) and Aristotle (384-322 BC). In his *Republic*, Plato (1982) divided narrative discourse into two types of poetic styles or methods: narrative discourse by imitation (*mimesis*), in which a poet narrates an event as another person, and pure narrative discourse or description (*diegesis*), in which a poet narrates an event as himself or herself. Further, Plato insisted that narrative discourse by imitation is superior to pure narrative discourse. Based on this opinion, he posited that poets were merely the imitators of existing phenomena, which in turn were a shadow of the true idea of the phenomena, and therefore, poetic imitation was twice removed from truth. Therefore, he concluded that poets should be banished from his ideal republic. Although, in his *Poetics*, Aristotle (1997) also considered mimesis as the essence of art, he suggested that the existing art genres were differentiated based on the combination of three elements: medium, method, and objects. Moreover, he considered that a narrative by language uses language as the medium, adopts narrative discourse by imitation, pure

narrative discourse, or the mixed discourse as the method, and is mimetic in its actions. Thus, Aristotle extended the concept of mimesis by including pure narrative discourse or description. Aristotle's concept of mimesis is different from Plato's in that it emphasized the aspect of diegesis. He also published *Rhetorica* (Aristotle, 1959) that focused on description itself.

Despite this rhetorical tradition, the realistic trend in the nineteenth century meant that literary thought in the West was predominated by the mimetic tradition with an emphasis on the imitation of the world itself or story. However, in the twentieth century, the literary theories that focused on the description of diegesis emerged instead of imitation or mimesis. This change was brought about by the influence of critical reconsideration by structuralism, etc., on the metaphysical tradition, the metaphysics of representation. Literary theories from Russian formalism to structural narratology insist on the superiority of diegetic description over imitation or mimesis. In summary, in the field of literary theoretical studies in the twentieth century, formal, structural, and rhetorical studies regarding literature and narrative have risen suddenly dependent on the literary tradition of mimesis and diegesis since Plato and Aristotle.

Some of the key figures from this field who appear in this book are as follows. Studies of the characteristics of story by Vladimir Propp (1895-1970) (1968), Algirdas Julien Greimas (1917-1992) (1966), and Claude Lévi-Strauss (1908-2009) (1964) (Watanabe, 1996), etc., have been developed based on the semiotic abstraction of narrative potential structures. On the other hand, the rhetorical theories of narrative discourse have advanced through the works of Mikhail Bakhtin (1895-1975) (1984), Wayne Booth (1921-2005) (1983), and Genette, etc. The former's flow shows the approaches that focus on the aspect of the events which occur in the narrative world, while the latter corresponds to the approaches that explore the rhetorical side of the methods for describing narrative events.

Lévi-Strauss was one of the founders of structuralism, to which narratology owes its origins. Structuralism is closely related to semiotics based on the linguistics of Ferdinand de Saussure (1857-1913) (1959). Roland Barthes (1915-1980) (1975a, 1975b) developed his original narratology that is aware of poetics and rhetoric. Structuralism and post-structuralism include the work of various philosophers, such as Michel Foucault (1926-1984) with historical methods, Jacques Lacan (1901-1981) in psychoanalysis, and Jacques Derrida's (1930-2004) de-construction, all of which have influenced narratology. For example, Aoyagi (2009), a Japanese narratologist, published a book that introduced the philosophy of Derrida into her analysis of the *Arabian Nights* (*The Arabian Nights Entertainments*, 1853).

Furthermore, narratology that was precisely systematized also had scientific and technological orientations. The author has considered that its philosophical orientation, and its scientific and technological direction, are not necessarily in contrast with each other. Although Barthes, who pursued the scientific and technological characteristics for a period in his academic career, returned to interpretational research, his apprentice Genette, promoted the formalization of narratology, especially narrative discourse theory. His original narrative discourse theory has produced a great volume of application research (Shimizu, 1994).

Russian Formalism to Bakhtin

The school of literary criticism called Russian formalism, which rose in Moscow and St. Petersburg in the early twentieth century, included researchers like Roman Jakobson (1896-1982), Viktor Shklovsky (1893-1984), Boris Tomashevsky (1890-1957), and Howard Eichenbaum (1947-2017). It produced a variety of literary theories, methodologies, and ideas, such as poetic linguistics, defamiliarization theory, artistic technology theories, and literary evolution theory (Kuwano, 1988) in association with various literary and artistic movements in poetry (Viktor Khlebnikov (1885-1922) and Vladimir Mayakovsky (1893-1930)), drama and theatrical arts, and architecture. Propp's morphology of folktales and the defamiliarization theory by Shklovsky are both products of Russian formalism. Russia formalists radically aimed in the direction of literary and narrative technologies, a tendency that was inherited by structural narratology.

The author mentions Bakhtin here only briefly, since he has not been used explicitly during this research into narrative generation, especially an Integrated Narrative Generation System (INGS). This research positioned Bakhtin as an excellent narrative researcher who presented literary theories and thoughts regarding both the autonomy of characters as agents in novels and the emergency of narrative entirety using the novels of Fyodor Dostoevsky (1821-1981). In particular, Bakhtin presented the concept of polyphonic novels or dialogic novels in which the story worlds are developed through the consciousness and conversation among numerous autonomous characters (the authors of the novels are also included among the characters) to the concept of monologic novels in which the design and report of narrative worlds by the authors are superior to the characters' actions. In the monologic works, the events in a narrative are objectively positioned and a narrator who can see all of the events edits and narrates the events based on the omnipotent authority. In

this case, the narration is considered by Bakhtin as the narrator's monologue. In contrast, in polyphonic works, the narrator's power is not superior to the characters'. Particularly, the entire narrative structure is constructed through the mutual relationships among plural voices, consciousness, and world views of the characters including the narrator. In other words, in polyphonic novels, all the characters as well as the narrator, namely narrative agents, who are participating in a narrative world, act according to each autonomous consciousness, world view, and action norm, respectively. Further, the world is not controlled by any transcendent agents.

The concept of polyphonic novels represents an extreme form of diegetic directions in literary theory. At the same time, it is a concept that is closest to drama as a typical mimetic genre. From the author's viewpoint, Bakhtin's polyphonic theory can be evaluated as a literary concept that achieves a fusion with mimesis while approaching it from the direction of diegesis.

To the Narrative as a Multiple Simulation from Bakhtin

As done previously, using the literary theories of Propp, Genette, and Lévi-Strauss, the author's study of narrative generation aims to re-define Bakhtin's concept of polyphonic novels, which claims that a novel progresses according to a multiple set of the subjective external and internal descriptions by each character, as a technological theory for program implementation theory, though the purpose has not been achieved. However, a limitation in previous narratology and literary theories is that they do not venture beyond the stage of analytical or interpretational theories and thoughts, and do not offer any constructive or experimental methodologies for considering the processes and mechanisms by which the entire structure of a novel is constructed from the mutual relations among the agents in the novel.

In contrast, the author has tried to develop a constructive and experimental literary study. Since a narrative as a literary work needs to process the complex and complicated relations among diverse types of narrative agents and mechanisms with different characteristics and positioning, this study conjectures that the analytical direction of literary theories and narratology is also important, different from the many narrative studies relied upon Artificial Intelligence (AI) and cognitive science. From the above viewpoint, Bakhtin's idea of polyphonic novels can be comprehended as the theoretical background of a new narrative design developed by the fusion between the simulation of a world and its description.

As stated above, a story is a set of events to be narrated in a narrative, and the narrative discourse means the narrating structure. In other words, a story is the temporarily structured world that is formed through the continuous mutual relations among characters, and the narrative discourse means a report of the world of the story framed by a specific viewpoint and method. Although Genette constructed a rhetorical system of narrative discourse based on the relatively static division between story and narrative discourse, the author has been developing INGS with the Genette-based mechanism. Beyond the previous mechanism, to aim at more essential narrative generation or narrative simulation, the author needs to develop INGS, in the future, in the direction of, so to speak, a story-narrative discourse mutual pervasive model like Bakhtin in which the story is rather not treated as an objective world.

There are previous ideas about treating a literary work as a kind of simulation. For example, a famous novelist in Japan, Sakyō Komatsu (1931-2011) (1991), discussed the significance and possibilities of literature as simulation for representing the diverse progression of the world. Furthermore, the new narrative form of computer games based on story simulation already continues to evolve and deepen. Although, in the above paper, Komatsu suggested that “story is a form of human recognition,” there are similar opinions in various research areas. For instance, Kawai (1994) considered, from the narratological and narrative therapeutic viewpoints, the recapturing of each person’s autonomous thinking and acts from a mental crisis. Noe (1996, 2007) showed the restoration and construction of the historical present time through narration. The author also considered, in the context of intelligent engineering, the significance and importance of narrative as philosophy and thought, since narrative is a typical and symbolic form of human recognition.

Returning to the viewpoint of narrative as simulation, a narrative work is an independent discourse world different from a real world, constructed by the mutual acts among the agents, each with its own properties, including the contents of character, narrator, narratee, author, reader, or audience. The narrative process, from the author’s viewpoint, presents an opportunity for a rhetorical experiment related to human mental states, people’s mutual relations, and the construction, observation, and report of the world and society through the moderate or enforced control of the agents. On the other hand, from the viewpoint of the characters in the narrative world, it is a place for the practice of actions based on mental states, emotions, decision making, motivations, and desires. The complexity or complicated characteristic of

narrative simulation is mainly realized through the interrelationship among the world of characters' relations, the world of observation and report by the narrator, and the author and receiver's world.

In addition, Arai (1998) defined the concept of gaming-simulation thus: "it is not social representation by mathematical formulation and is the simulation dependent on the interrelation with autonomous agents with given roles and environments." Moreover, he stated, "equally dealing with gaming and physical experiments is a fundamental mistake and we should consider that the role of gaming is as a method for exploring social possibilities," and "players in a game do not act according to the expectations of the gaming designer." Gaming should be seen as a collaborative work between the designer, facilitator, and players, and all three agents learn through gaming. From the viewpoint of the designer or researcher, we should evaluate the emergent effects of gaming beyond the designer's expectations, and the diversity of results and interpretations more than the repeatability of gaming experiments that must be originally expected. Although the above opinion by Arai is different from the direction of the author's narrative generation study because it is based on the participation of people, it is similar to Bakhtin's concept of polyphony. The automatic narrative generation game by Ono (2018) and Ono and Ogata (2018) also uses the framework of table-top (or table-talk) roleplaying game (TRPG) that is similar to the method of gaming and simulation by Arai in the narrative generation mechanism, INGS.

Facts and Narratives, the Basic Structure of Narratology, and Its Expansion

In the first part of *Kagerō Nikki* by Fujiwara no Michitsuna no Haha (c. 936-995) (1989) stated her opinion. In particular, she wrote that most of the content of old narratives comprises fictions or lies, and that she would, in contrast, write about her true life through a diary. She declared that unlike written narratives, diaries represented true things and facts. As she also described in the first part of the book, *Genji Monogatari*, Murasaki Shikibu (c. 970~978-c. 1019) (1993, 1994, 1995, 1996, 1997) stated that narratives can have more truths than histories. The keywords in these texts are fact, truth, fiction, lie, and similar terms. If the author simply represents events and experiences, narratives include truths even though the "stories" may be fictions or lies. On the other hand, nonfiction diaries and histories are assumed to include facts and truths. However, narratives, diaries, and histories that do not include truths do exist.

Although all of these can include truths, the basic characteristics in the three types of texts (narratives, diaries, and histories) are different. Here, if truth means important information that provides insights and indications about people, the discourses around truth transcend the boundaries between fiction and fact. Therefore, the relationship between fiction and fact in a discourse is not inconsistent, but the proportions of the two may differ. For example, it is possible that the ratio between fact and truth is changed in diaries and histories that primarily focus on facts, and these gradually approach narratives. In contrast, narratives centering on fictions, such as diaries and histories, can change to texts focusing on facts. The author does not consider that there are two different groups of techniques for representing facts and fiction. The division is defined as different usage methods of a group of narrative techniques.

White (1973) listed metaphor, metonymy, synecdoche, and irony as typical rhetorical figures of speech used to construct historical discourses by combining them with historical plots. Further, he associated the four methods with the discussion styles (individual, mechanistic, organic, and contextual) and ideological styles (anarchy, radical, conservative, and liberal). He stated that all histories are written narratives using narrative techniques. On this point, factual histories and fictional narratives have the same characteristic. Considering more deeply his historical theory and related studies will be an important future direction of the narrative generation studies of the author of this book. Moreover, White proposed a rich consideration and results using macro-level narratological methodologies. Certainly, for historical descriptions as macro-level social narratives, macro methods are first required for determining global narrative structures. Macro-level narratological methods are needed to introduce the author's narrative generation systems, especially INGS.

For the automatic generation of historical narratives, a discussion of fusing macro-level narrative methods with more micro-level narrative techniques follows. Although at the time White (1973) wrote his representative book, narratology, and narratological literary theories, especially his micro-level theories and techniques, were not substantially developed, since then the frameworks have been extended and elaborated. Narratology and related literary theories in the literary and philosophical disciplines were further developed under the influence of Russian formalism, Saussure's linguistics, structuralism, structural linguistics, and anthropology. The author considers that one of the characteristics is to establish both the frameworks of philosophical theory construction and the precise technological, analytical, and theoretical constructive elements.

For instance, Propp (1968), who practiced his narratology before the term “narratology” was used, was both a practitioner of narratology’s thought and a technician who gathered and systematized detailed folkloric data. Similarly, Lévi-Strauss was both an anthropologic philosopher and an analytical technician of detailed data of myths. Additionally, Barthes was both a practitioner of narrative philosophy and critiques and a technician of narrative structural analysis, and Genette was both a philosopher or thinker who had broad knowledge of narratives and a technician who carried out the detailed analyses of diverse aspects of narratives.

Similar narratological researchers existed in Japan. Kumagusu Minakata (1867-1941) was a comparative folklorist and anthropologist who treated subjects from all over the world. At the same time, he was a collector and analyzer of the detailed data of folktales, legends, and myths. Moreover, he was a natural scientist who studied Myxomycetes and other subjects. Kunio Yanagita (1875-1962) (2016) was a philosopher and thinker. At the same time, he was also a collector of folktales in many areas in Japan. Shinobu Orikuchi (1887-1953) also had similar interests, and he was an ethnologist of Japanese culture; a literary author who wrote many *tankas* [short poems], stories, and scenarios; and a researcher of Japanese culture, literature, and *geinō*.

Thus, when we treat narratology and narratological literary theories, we should see simultaneously the next two directions: a philosophical and idealistic direction and a technological and analytical direction. In narratology, through the overlapped approaches of the above-mentioned researchers, several essentially important concepts have been established. As these concepts appear in various places in this book, the following explanation will help the readers’ understanding. Moreover, these can function as philosophical or ideological concepts for implementing in our worlds and societies; they connect to very detailed technological procedures for narratives and narrative generation.

The first important concept is “story.” Structural analysis is a central element in narratology and related literary theories. In the most general analytical framework, the structure or form of a single narrative is constructed from two elements: story and narrative discourse. A story means what is represented in a narrative. A story’s main components includes events (acts and states), characters, objects, places, and temporal elements. More precisely, an event is generally a collected unit of characters, objects, places, and temporal elements. A critical point in distinguishing among stories is the sequence of these collected units. In summary, the story is the connective form of the units. A story should have all the information that occurs a narrative. Note that because narratology first focuses on structures rather than content,

narratives with a same structure can be categorized based on an important similarities regardless of the difference in their content. For example, when there are two narratives with the same basic structure and form, even if one asserts progressive thoughts and one asserts conservative and reactionary thoughts, narratology and related literary theories consider that they have an essential similarity that is more important than the content. For instance, the progressive narrative can be seen the same as the conservative and reactionary narrative if both follow the structure of telling a story.

The next significant concepts are “narrative discourse” and “narrative representation.” Narratives contain both concepts and methods (representation) and a narrative layer or level for communication (discourse). The narrative level directly connects readers to a narrative. When we focus on a story line in a narrative, this level is related to the plot. However, plot is a narrow concept that corresponds to the event flow in a narrative. Actually, as the act of narration includes employing diverse methods more than making stories, the word that contains the whole corresponds to narrative discourse. In this sense, the narrative discourse is the information received directly by the reader, listener, or audience. A story is an image that the receiver mentally makes through the narrative discourse. In contrast, the sender of a narrative generates a story and actually narrates it using narrative discourse techniques. This actually narrated text is equal to the narrative discourse. Therefore, first, it is the object itself represented by language and other representation media.

However, this research divides the level of narrative discourse into the narrative discourse in the narrow sense and the narrative representation in the sense of surface expression. In particular, the narrative discourse in the broad sense is equal to the narrative discourse in the narrow sense and narrative representation. Regarding the difference between narrative discourse and narrative representation, the author calls the structural parts in a narrative discourse the narrative discourse in the narrow sense and the representation’s parts or surface parts (concepts and methods) in a narrative discourse. The structural parts include the plot line, the tempo and rhythm of temporal progression, and the viewpoint of a narrative development. Although narrative discourse is represented as a narrative representation through one or more surface media such as language, the abstract structures and forms are hidden in the represented text. Thus, the narrative representation is a “narrated narrative” including the layers or levels of story and narrative discourse.

Furthermore, the levels of sender and receiver should be considered. The narrative structure of a narrative is created through the mechanisms generating a story, making a narrative discourse, and delivering a narrative

representation. A narrative sender (e.g., writer, storyteller, filmmaker) should integrate these mechanisms in a unified existence. At the same time, the sender should deliver the information to any receivers (e.g., readers, listeners, viewers). This corresponds to the act of existence creating a narrative or narrative act. When a sender sends the narrative information to the receiver, communication structures between senders and receivers are formed through the narrative. However, there are also narratives that are not sent but function and finish only inside the narrators. This corresponds to the level of self-illusion in the philosophical scheme of three illusions by Takaaki Yoshimoto (1924-2012) (1968). In this case, the sender is both sender and receiver, and the communication structure establishes the distinction. Although a clear relationship of senders and receivers is that they are in different spaces from the characters in a narrative, one of the characters is frequently the sender of a narrative and thus is an element of the narrative. Thinking more essentially, both senders and receivers are a type of character. Although the hierarchy of senders in a narrative contains the level called “author” and is ordinarily represented by a name, the author is also a fictional or created element in the hierarchical world of a narrative.

Although the above concepts are among the most fundamental, narratology has not necessarily focused only on such technological concepts. The original reason for narratology to explore precise narrative structures was to recognize the positive and negative roles of narratives and the importance and significances of narratives. The direction of narratology has been the social application and its original characteristic and essential scope.

The author now returns to the first consideration of the scheme in which the concept of truth is located in the boundary of fact and fiction. A problem follows: does a difference in narrative methods exist between factual discourses and fictional discourses? The author’s narrative generation study regards narratives as a concept that contains both fictional and factual discourse and holds that the narrative techniques are basically same between the factual and fictional narratives. For example, although determining the factuality of a historical discourse ordinarily requires comparison with external texts, determining whether the historical discourse is fact or fiction can be difficult if the external texts are efficiently prepared. Whether or not contradictions exist does not become the criterion because contradictions can exist among the various texts asserting a fact. It is more a problem of degree. The author cannot declare that the degree of contradictions among external discourses supporting a narrative is not completely useful for determining whether something is fact or fiction. However, from the multiple narrative structures

model, the external discourse in this case corresponds to a part in the entire narrative construction and is also constructed using a set of the same narrative techniques as those in the internal discourse—the story techniques, narrative discourse techniques, and the techniques of narrator and narratee.

A Philosophical Opinion on Narrative by Nishigaki

Nishigaki (2018) has not necessarily dealt with narratology directly. However, although he may be clearly aware of narrative, he presents an important, unique opinion about the keyword, narrative. One of the themes of this book is to critically consider the possibility that AI will surpass human intelligence, especially the singularity hypothesis. He regards a conceptual mechanism fundamentally supporting such a discussion as naïve realism, in particular the narrative power in addition to the power of physical demonstration. Moreover, he considers that the above discussion relies on the Judeo-Christian tradition at the root of current European culture, and criticizes such ideas using his method of “basic informatics,” which is his original theoretical framework, based on neo-cybernetics introducing autopoiesis theory. One of his main points is that the current AI based on the idea that the world can be described objectively. However, he thinks that the world is essentially constructed through collecting our subjective descriptions or inter-subjectivity. Regarding narrative, Nishigaki insists that such a positive view of AI based on naïve realism is supported by narratives such as the singularity theory. He considers that narratives function as strong and effective tools for socially familiarizing religious doctrines and social or political ideas. Thus, since his discussion is basically developed from a critical viewpoint, it is a kind of criticism of narratives. We can frequently see this kind of criticism of narratives. However, one of the significant features of the construction of narratology was the conscientization of the fact that a truly effective criticism of narratives requires the precise analyses of narrative structures and functions. Therefore, Nishigaki’s opinion regarding narrative or criticism of narratives may mean the popularization of narratology itself.

An Evolutionary Study of Stories

A study regarding the evolution of stories and narratives was already attempted by Yury Tynyanov (1894-1943) (1997) in Russian formalism, and Propp discussed the transformation of stories in his research of narrative functions. The problem of the transformation of stories has been a popular

theme in folktale studies. In Japan, Minakata considered the example of a story's transformation that crosses various cultures. Recently, Boyd (2009) discussed the problems of the evolution of stories from broad perspectives using evolutionary theory; he called his new literary theory "evolutionary critique," different from previous literary theories. Although the concept of story includes both factual and fictional stories, Boyd focused on fictional stories. In his evolutionary critique approach, fictional stories are the mental version of evolution by natural selection, and he considers this an important element contributing to the evolution of human intelligence: story is an important tool that increases human thought and intelligence by problem solving in the narrow sense to problem solving in the broader sense, namely "creativity." In particular, the story has developed rhetorical and creative methods for transmitting various events in and throughout human societies. Moreover, it extends human intelligence by exercising the imaginative and simulative abilities to expand social possibilities and cope with unexpected situations. Humans are animals who are simultaneously living in both mental simulations (through stories and narratives) and the actual experience (daily living in the real world among society). Although other animals may well have similar abilities on a more primitive level, humans have evolved to our present state through the generation, accumulation, and manipulation of mental simulation.

Based on these basic ideas, Boyd surveyed broad academic fields, including evolutionary theory and cognitive science. Relating to cognitive science, he considered the personal evolution of children's narrative ability. Through their developmental process, children gradually acquire "mental theories" and learn the following things: the division of subjects, the story-like or scriptural continuity of events, and the relationships of episodes and characters—human narrative abilities that had already appeared by the time of the ancient story *Odysseia* by Homer (8th century BC) (2017). The whole of these narrative abilities is the basis of the simulation ability that transcends instantaneous problem-solving behaviors constrained in a spatial and temporal range. The ability contributes to the human mind and social evolution. In addition, although Barthes described the characteristics of transmedia or cross-media, and in Chapter 2, the author discussed, more concretely and comprehensively, narratives that adjust and cross media, Boyd showed that the cross-media feature is already included in children's narrative plays.

In Boyd's view, his evolutionary critique is in opposition to contemporary literary theories, which he says have a tendency to regard narratives and stories as culture-dependent subjects that precede the implementation of

individual narratives. Further, they are basically non-positive, rely on “pseudo psychologies” such as those of Sigmund Freud (1856-1939) and Lacan, and are unscientific and unreliable narrative theories. However, regarding these critical parts, the author would like to object to his criticism of what the author sees as extreme stereotypes of contemporary literary theories—in particular, the formal literary and narrative studies in Russian formalism as a chief origin and the successive structuralism of narratology focused on the universality and generality of narratives and literatures.

Although Propp’s narrative theory that the author has referred to in this book certainly used Russian folktales as analysis materials, he tried to present a universal and general narrative grammatical system. Propp’s method was similar to Boyd’s intentionality in that Boyd aimed to construct a universal and general evolutionary critique using *Odysseia* and by *Horton Hears a Who!* by Dr. Seuss (1904-1991) (1954) as source materials. Genette also provided a theory of narrative discourse theory with a general and universal applicability using a novel, *In search of lost time* by Marcel Proust (1871-1922) (2003). The narrative analyses of these narratological studies were logically and technologically conducted. The facts were an important reason that these works could be adapted to areas of AI and cognitive science. Perhaps Boyd’s direct targets were the contemporary literary theories that criticize ideologies and culture-independent characteristics for having lost their universal, general, scientific, and technological characteristics. Boyd’s discussion regarding the above topics might be effective as an ideological dispute. However, the evolutionary critique should positively introduce ideas, thoughts, and philosophies, as well as technological results from the original narratology or research in the early periods. In addition, the author thinks that both the universality- and generality-oriented direction and the individuality- and culture-oriented direction can be achieved. When we try to construct consciously the philosophies of narratives and stories in different cultural worlds from the West—for instance, in Japan—it is indispensable to adopt critical thoughts of ideologies and Eurocentrism. Ideology-critical narratology analyzes and criticizes the narrative styles that claim a special and local opinion in a specific cultural area—a universal and general thought and philosophy. Such recognition is a requisite viewpoint for the narratology and literary theories in peripheral cultural areas such as Japan.

A THEORETICAL FRAMEWORK FOR THE SYNTHETIC COMPREHENSION OF NARRATIVE GENERATION: MULTIPLE NARRATIVE STRUCTURES MODEL AND EXPANDED LITERARY THEORY

As the author described in detail in Chapter 2, narratives appear as extremely transboundary and diverse phenomena. The fact is associative to the extent of application range. In the field of literary research, individual studies of each literary work were previously the mainstream, which focused on the characteristics of each literary work to analyze its originality according to narrative diversity. In contrast, narratology has explored several general principles underlying narrative diversity through all narratives or narrative phenomena, based on analyzing narrative structural patterns, common communicative characteristics of narrative descriptions, and so on. However, the problem of the confrontation between diversity and generality does not necessarily mean the confrontation between traditional narrative and literary studies, and structural narratology. For example, defining the concept of author in traditional narrative and literary studies may be considered as an attempt for determining the universality and generality in diverse narrative and literary works, or the diversity in narrative and literary works. Narratology and related literary theories illuminated the forms and possibilities of methodological generalization more clearly in the sense that narratology provided methodologies for analyzing various aspects of the universality and generality at a more formal level, including the structure of each work and the descriptive communication form to create a concrete work's structure.

However, the fact that narratology has necessarily maintained a stable structure was also clear, for instance, through the thinking process of Barthes. Although his manifesto of narratology has been evaluated academically, and led to the subsequent development of the general theory of narratives, he himself, as if an agent provocateur or escaping criminal, deviated from the direction of narrative general theory, turning towards an anarchistic interpretational direction of the "pleasure of texts." This example also shows that narratology itself has been wavering between narrative universality and generality from the beginning. However, when we see his interpretational method regarding the pleasure of texts (Barthes, 1975a) in a context different from the historical process of narratology, it is a challenge to the reading of texts in a formal and mechanical manner based on several explicit interpretation codes. It enters into the problems of editing and the production of texts in the sense through which

the hidden meanings in a narrative text emerge richly and may be a possible developmental form of narratology. The above textual interpretation method by Barthes is also related to human creativity support systems (Hori, 2007) in AI in the sense of the proposition of organic description and representation methods of each reader's subjective reading. Hori presented systems that represent the individual subjective map concerning the image of words on a computer display and enable operation by the user to give indications on the intelligent activity to the user. Although Barthes's method is more semantic and structural, dependent on the subjective map of each reader's reading and thinking according to a proposed framework (system), the reader can create unique and original interpretations or new narratives.

On the other hand, on the applicable side, narrative analytical research by Propp, Barthes, and Genette have been developed and elaborated on for the analysis and interpretation of each genre and narrative work. This direction may be deemed a disconnection and a practice of the narratological general method among the diversity of concrete works, and be regarded as a point of progress for the mental tendency of literary studies that respect the connection with concrete works more than abstract theories. However, these interrelationships have not contributed to the framework of the narratological method as a whole. Both protecting the diversity of narrative phenomena and achieving methodological generality have remained problematic.

The author's narrative generation system study explores a method that can deal with the diversity and generality in narratives in a framework instead of treating them as opposition and conflict. Treating novel and dance as a same narrative category means that surface representation mechanisms or media and the aspects of materials and objects, namely the problem of narrative content, are abandoned to focus on narrative structural and functional aspects. It is a strategy to anatomize the common characteristics in diverse lower categories in narratives. In this strategy, various narrative genres are absorbed into a narrative form and the diversity is secured in the aspects of representation, media, and contents. The narrative classification is not fixed and is fluid or always temporary.

The multiple narrative structures model and expanded literary theory by the author are concepts for comprehending narrative diversity. The expanded literary theory that tries to expand narratology and literary theories by informational methods is a tool to treat consistently the essential area transversality as an organized academic field based on informatics, especially AI and cognitive science, instead of a mere gathering of various fields. Although similar studies have been attempted by research groups relating to

the author and several researchers such as Ryan (1991) and Meister (2003), an outstanding point of novelty in the author's work is to use the concept and actual computer system of the narrative generation system as the integrating point of all the various research parts. Although the narrative generation system may be interpreted as the restoration of the "author's concept" that was already disclaimed by structuralism, the concept of "author" in this case is a multiple existence that includes "authors" at various levels, such as, in addition to the personal "author," the narrator in a work, organizations like publishers, social systems, and institutions. The multiplicity of "author" in the above sense is related to the multiple narrative structures model as another theoretical framework.

Although the expanded literary theory is a basis of the general processing of the diversity in narratives and literary works in the sense that it universally deals with many literary methods by the medium of informatics, the multiple narrative structures model conducts it on the mechanical side. Narratology deleted many aspects of narrative representation for pursuing narrative universal and general characteristics. However, the multiple narrative structures model comprehended the phases of story, narrative discourse, and narrative representation that cuts the structural aspect of the narrative discourse as an integrated core, a primitive mechanism, or an inseparable series of processes. It processed the diversity of narrative phenomena based on diverse genres as the multiplicity of the core or primitive mechanism to capture diverse narrative phenomena in a general framework.

In this part, the author mentioned a basic standpoint of the author's research, in which the "narrative generation system" dependent on the expanded literary theory and multiple narrative structures model is a model that integrates narrative phenomenological diversity.

Currently, the philosophical concepts in the author's narrative generation study or post-narratology include the following:

- Expanded Literary Theory.
- Multiple Narrative Structures.
- Circular Control.
- Norm and Deviation.
- Fluidity and Fixation.

The first Expanded Literary Theory (ELT) reinterpreted some of the traditional literary theories from the viewpoint of informatics and experimentally implemented programs for the mechanisms of narrative

generation. Although other four concepts, multiple narrative structures, circular control, norm and deviation, and fluidity and fixation, have been independently developed from ELT, they can be regarded as a group of concepts that correspond to the subcategories of ELT. They are also related to literary theories; at the same time, they are concepts geared toward the original directions of information contents and narrative generation. Positioning them as subcategories of ELT is related to the aim of incorporating previous literary theories into a conceptual framework geared toward an original literary theory or narratology for information contents and narrative generation. This entire or “expanded” ELT is substituted for the previous ELT. In particular, ELT has been extended towards the construction of a comprehensive concept that includes several sub-concepts to direct generative acts in the narrative generation system or aspects of narratives that are thereby generated. Further, the objectives also include the creation of narrative generation systems and new narrative works. The following are concepts that will be composed of ELT in this extended sense and are related to the dynamics of narrative generation. These correspond to the macro directions or strategies for controlling the flow of narrative generation and can be interpreted as interrelated. However, the following introduces five theoretical concepts individually.

Expanded Literary Theory

“Expanded Literary Theory (ELT)” is a theoretical concept used in the development of the author’s narrative generation systems. It was applied to the current Integrated Narrative Generation System (INGS), which uses a mix of three literary theories. The Propp-based mechanism is used to generate relatively long and macro stories or the skeletons, and the Genette-based mechanism is used to systematically implement the discourse techniques. The Jauss-based mechanism processes a discourse generation control under the interaction between a narrator and a narratee within the system. These will be described in Chapter 1 in the sequel (Ogata, in press) regarding INGS. An important result is that the theories of previous narratologies were effectively reinterpreted from the viewpoint of an integrated practical method. On the basis of the technological result, the author has aimed to propose a framework for further expanding ELT. The main future issues are divided into theoretical and practical aspects. One of the former themes is to associate various literary theories to the sub-concepts in ELT. An important theme of the latter is to implement a particular literary theory interpreted under the framework of a proposed concept as a mechanism in INGS.

Seen from a broad perspective, expanded literary theory can be located in the macro-literary tendency that has aimed at the transformation of narrative forms since the early twentieth century. However, works by James Joyce (1882-1941) including *Ulysses* (1922) and *Finnegan's Wake* (1939), were attempts at the bold transformation of narrative forms inside the medium of books. In contrast, current transformations are more radical and essential because they are linked with the transformation of media itself. The literary theorists in Russian formalism in the early years of the twentieth century claimed that the revolution of narratives or, more broadly, literature arises from the revolution of forms (Kuwano, 1988), and Yoshimoto (1965) showed that the destruction and innovation of the form of sentences has become the driving force of narrative qualitative transformation rather than the inventive step and innovativeness of the contents of the narratives.

Yoshimoto's theory was formed in the flow that confronted the content-oriented literary thoughts in the Russian and Chinese socialism of the time. For instance, content supremacism such as the proletarian and socialism literature of the past was conservative in its representational forms and did not contribute to new developments in literature or further the revolution (or the evolution) of human consciousness. The essence of the current transformation has been previously considered in the relationship with the breakaway from narrative sequential power and "grand narratives" (Lyotard, 1979). These were considered new because they were realizing the technological level of the digitalization of media. However, narrative forms and technologies must have the element of "badness" as defined by Georges Bataille (1897-1962) (1957), who said it meant creating narratives to impress many receivers. The idea of expanded literary theory in this chapter has been considered in the historical perspective of literature, the arts, and narratives.

An Overview of Expanded Literary Theory

The main background of this chapter is comprised of narratology, AI, and cognitive science, and the expanded literary theory that the author has discussed. Although the author previously described these concepts and terms, this section summarizes expanded literary theory only. One reason for this is that this concept is a background of this chapter as it precedes the concept that is connected directly to post-narratology and the narratology of narrative generation by the author. In addition, as the term, "literary theory," has a similar meaning to other contemporary literary theories, which place

narratology in a central position, the term “expanded literary theory” can be replaced with “expanded narratology.” However, the word “expanded” does not simply refer to an expansion of an academic framework. When using the term expanded literary theory or expanded narratology, the concepts of future literary theories and narratology are also implied. Therefore, the author uses post-narratology instead of expanded literary theory or expanded narratology.

The concept of is one of his ideas for research and development focused on narrative multiplicity at various levels. is also part of ELT, as stated in the following section. ELT was originally presented as a concept for research fields in which narratology and literary theories were organically introduced into computational and cognitive approaches, such as AI and cognitive science, or narrative generation systems. The author also aimed for an extended narratology or literary theory to design and develop digital narratives or information contents in ELT. The following description is primarily based on the previous chapter (Ogata, 2016, 2019).

ELT has two main features: (1) It develops and analyzes narratives as information content in the broad sense, and (2) It develops narrative generation systems in the narrow sense. The second feature is related to the point that a narrative work as information content includes an automatic narrative generation mechanism as its narrative engine. ELT is related to the creation of literary or entertaining narrative works, in contrast to existing styles that use either a narrative generation function or are supported by one.

The first fields of expanded literary theory include those of narratology and literary theories. Narratology, in the narrow sense, is the (structuralist-inspired) theory of narrative. Tsuchida, Aoyagi, and It (1996) published a compact and exclusive terminology, and many related books were published. The author proposed a general description of narratology in several references (Ogata, 1995, Ogata & Kanai, 2010). In Japan, although many of the related books and papers were written by proper researchers of narratology and literary theories, the author’s books and papers have been described by cross-disciplinary researchers covering various academic fields, including AI, cognitive science, and business administration.

As explained by Prince (2003), “Narratology studies the nature, form, and functioning of narrative (regardless of the medium of representation), and tries to characterize narrative competence.” Although contemporary narratology covers a wide range of materials, its chief and original characteristics are structural and involve a formal approach to texts in various narrative genres. Many researchers have developed eminent and productive theories (Chapte 4).

In addition, recently, Japanese narratological studies have also been the focus of Japanese literary groups (Chapter 3). Much of this Japanese research has been affected by the West and the influences of structuralism and narratology. At the same time, a distinctive feature has been that the researchers created unique philosophies and thoughts by introducing the influences of the West into Japanese cultural traditions before the Edo era. For example, the literary theory that Watanabe (2012) first introduced comprised literary methodologies and techniques by a novelist in the Edo era, Kyokutei Bakin (1767-1848).

A systematic anthology of narratology by Mieke Bal (2004a, 2004b, 2004c, 2004d) covers the full scope of contemporary narratology in the following contents.

- **Volume 1: Major Issues in Narrative Theory:** This volume contains *Preposterous Beginnings* (Part 1), *Plot* (Part 2), *Representing Speech* (Part 3), and *Believe It or Not* (Part 4), and it collects papers that prepared contemporary narratology and basic references of classical narratology.
- **Volume 2: Special Topics:** This volume contains sections on *Deixis*, *Time*, *Character/Plot*, *Paradigmatic Case Studies*, *The Ethics of Narrative Truth*, and *Against Wholeness*. The *Ethics of Narrative Truth* was an especially pioneering theme.
- **Volume 3: Political Narratology:** This volume consists of the following parts: *Where Is the Political? Understanding Ideology*, *The Politics of Desire*, and *Time*. Whereas Volumes 2 and 3 present critical theories of ideologies, these portray the possible development of narratology that was based on an aspect of structuralism as a cultural relativism.
- **Volume 4: Interdisciplinarity:** This volume contains *Law, Justice, History, Truth, Social Narrative, Subjectivity, Music and Film: The Arts of the Time*, and *Science and/as Narrative?* These show an interdisciplinary and cross-disciplinary side of narratology. Although many of the themes were related to the above ideological directions, the *Subjectivity* was associative with human psychological areas and the *Music and Film* showed narrative rhetorical methods and techniques in nonlinguistic narratives. Regarding the relationship of science and narratology, one of the topics was the direction to “the science as a narrative” and another was the orientation to “a literary study as science” or “narratology as science.” However, the latter did not work out. Although, certainly, the author’s post-narratology simply does not

aim at narratology as science, it definitely has a strong relationship with science and technology as an area different from an ideological or political narratology of science.

In contrast to the definition by Prince (2003) and Tsuchida, Aoyagi, and Ito (1996) of the original narratology and the broad areas of narratology in Bal's collection, the author concludes the following. Narratology was originally generated and developed as formal, structural, further technological methods and techniques based on Russian formalism and structuralism. This was one reason that narratology influenced narratological studies, such as story schema, in AI and cognitive science. However, according to the expansion (or divergence and further self-destruction) of the entire field of literary studies related to the later reception theory, reader-centric criticism, and cultural studies, the areas of narratology have been enlarged. In particular, narratology based on a universal concept, narrative, graduated from the first period, which mainly tried to define the narrative itself, to extending the ranges to applications and adaptations. It might be a necessary flow. However, in the process, research that does not have not formal and structural characteristics in the original narratology have been treated in the area of narratology. In contrast, the narratology for (or as) the author's narrative generation or post-narratology aims to recognize in a new way the formal, structural, and technological features seen in the original narratology to incorporate into cognitive science and AI. However, cognitive science and AI have also been developed; for instance, they have evolved from individual approaches to approaches based on environments and affordance, including societies and cultures. Furthermore, in cognitive science and AI, neural-scientific approaches have been evaluated again, and methods combining both symbol processing and neural networks are being exploring. Therefore, various methods by expanded narratology will be able to be introduced into the post-narratology. However, the author sees the narratology that can be a foundation of the post-narratology in the above original narratology and the possibilities. Of course, dependent on the current developments of cognitive science and AI, the author will introduce narratology centering on the ideas and methodologies in the original narratology.

Through narratology, the word "narrative" has been treated as an important term, primarily in literature and the humanities. Narratology considers narrative as the conscious or unconscious mental framework that supports and directs human thinking and culture in the background. Narratology also focuses on the general characteristics of narrative, and its basic orientation

is to pursue common narrative mechanisms. When we think of the main components of narrative generation, the classification by Aristotle (1997) should first be recalled. As shown in Chapter 3, he divided the constituents of a tragedy into “plot (*mythos*),” “character (*ethos*),” “thought (*dianoia*),” “diction (*lexis*),” “song (*melos*),” and “scenery (*opsis*).” For future narrative generative architectures, it then becomes a synthetic modeling of various narrative elements. This basic idea was inherited by narratology. Through Genette, as shown in Chapter 3, four commonly accepted constitutional elements are included in narratology as follows: (1) The generation of the story or the narrative world to be narrated, (2) The manner of narrative discourse (A: deep, structural generation), (3) The manner of narrative discourse (B: surface-level generation), (4) Narrator or sender, and narratee or receiver.

Additionally, although this is related to the above description, the word “expanded” in the term expanded literary theory also signifies an expansion of previous narratological studies centered on narratology and literary theories in the West by including studies based on the narratology and literary theories of Japan. This does not necessarily mean that the narratology and literary theories from Japan are implemented and re-constructed within the framework of previous narratology and literary theories. Although there are certainly narratological structures and characteristics that are common and universal on a global scale, the author instead aims to consider the aspects that are unique Japan. For instance, as seen in folktale analyses by Propp and other researchers, although a typical macro pattern of folktales in the West is that a story begins with the exploration of a symbolic object that is sought and concludes with its invention and a happy ending, it begins with a state of lack and, through various events, returns to the stage of lack once again in one of the representative patterns of Japanese folktales. The differences in the syntactic structures of the English and Japanese languages may be related to the two narrative developmental methods.

Another primary field of expanded literary theory is informational studies, which includes the fields of AI and cognitive science. Various aspects of information research related to narrative are introduced in this subsection. These narrative-based approaches include narrative generation systems and commonly used theories and techniques developed by past research in AI and cognitive science. Representations of knowledge and computational techniques used for text comprehension and generation (Chapter 4). These theories and techniques are closely related to analytical studies in narratology and literary theories for story, discourse, and communication between a narrator (or author or sender) and a narratee (or reader or receiver). In the

future, various elemental technologies, including recent and new directions such as brain science, cognitive science, and management science, will be addressed by these theories and techniques.

Expanded Literary Theory Seen from Another Perspective: Technology and Management in Narrative Generation

The author would like to confirm the broad and comprehensive meanings and ranges of the word, concept, or framework of “narrative generation system.” First, it means a viewpoint that regards narrative generation phenomena as a whole as an organic and synthetic “system.” Narrative phenomena cover a variety of aspects or ranges such as biological, psychological, semiotic, institutional, and social. A narrative generation system is a framework that synthetically models such narrative diversity. At the same time, it has the characteristics of a technology that covers in its range the automated narrative generation of narrative texts, and the relationships with human narrative creation activities through it, for example, producing novels and narratives through the collaboration between a human writer and the narrative generation system. In particular, narrative generation is a comprehensive framework for recognizing narrative phenomena. Simultaneously, it is a technological method for creating narrative phenomena. Conversely speaking, although in the above the level of automatic narrative text generation directly means the system that is developed as a computer program or the narrative generation system as a computer program, the narrative generation system exists as a comprehensive model of narrative generation as the basis or background. In this case, the level of automatic narrative text generation corresponds to the micro model of narrative generation and the level of comprehensive narrative generation corresponds to macro model of narrative generation.

The author has presented the expanded literary theory and multiple narrative structures model as stated above as concrete foundations for the study of narrative generation. The expanded literary theory comprises the plans and methods for expanding narratology and literary theories through informatics methods. The multiple narrative structures model comprises plans and methods that model the execution process of narrative generation systems through the multiple and complicated relationships from the most basic and primitive narrative structure. This section’s objective, regarding the narrative generation system with its broad field of coverage and complicated directions as described above, is to develop a comprehensive conceptual foundation

for the entire range. The conceptual foundation includes the concept and thoughts that form the basis of the technological system in the narrow sense or the system as a computer program. The author presents two types of basic concepts, narrative “technology” and “management.” The concept of narrative technology does not necessarily mean more direct technology at the level of a computer program. It rather means all the concrete knowledge for making narratives that was naturally acquired, inherited historically, or described in books. The concepts of narrative technology and narrative management are mutually associative, and narrative management means a kind of control knowledge for the actual usage.

What is Narrative Technology?

Simply speaking, the author regards narrative as a technological system. Narrative is a method that imaginatively and creatively simulates human, social, and natural phenomena, especially the mutual relationships between persons (characters) and environment (a society and natural world), in temporal progression and spatial extent. The simulation means the method that constructs a kind of reality for the narrator and narratee. Such ability is a basic principle for human recognition of the world and human acts in the world. An important point is that narrative acts are executed, and the narrative is constructed, in a form such that the narrator and narratee are also contained and involved in the world. This is a feature of narrative simulation. We can see a similar idea in the border area between philosophy and history. For example, Noe (1996, 2007) stated that actual histories are narratives at the point of constructive and descriptive functions by each narrator. However, the author’s objective is not to merely construct a unique world view and thinking background by presenting the world view based on the concept of narrative using narrative simulation. The more important objective is to clearly extract concrete narrative methods and knowledge to grasp and systematize them as a set of techniques for the execution of generation beyond mere narrative analyses. These narrative techniques are contained or appear clearly in the narrative generation system. Therefore, the narrative generation system means a synthesized technological system that picks up and determines the objects to be narrated, such as characters and their acts and various phenomena of the narrative world as environments of the characters, and structures them according to a narrative flow. Furthermore, it represents the narrative flow using adequate words and other media.

Now, rhetoric has studied narratives and literary texts, as well as general texts from the viewpoint of the techniques of representation. In Japan's literary tradition, although rhetorical methods in the broad sense have been practically used for the technique of *waka* (Japanese short poem) and rules or norms of text writing, the rhetorical direction in literary and narrative studies has declined in modern Japanese literature, especially with the strengthening of realistic and naturalistic tendencies. In particular, the characteristic of rhetoric that focuses on the representation form itself instead of the represented content was negated by the consciousness of literary realism and naturalism. Moreover, the change from the Chinese words style and classical literary style to the modern spoken language style in modern literary or narrative works in Japan shunned the restrictions of the rhetorical style's formalism. In addition, although we can say that the colloquial style in modern Japanese literature was also a new rhetorical style, broadly speaking, its establishment needed an estrangement from traditional rhetoric, furthermore from the concept of rhetoric itself. At the same time, there have been literary movements that have focused on formal and rhetorical literary representation, such as new-sensualism by Riichi Yokomitsu (1898-1947) and Yasunari Kawabata (1899-1972). A series of debates was held between such literary schools and the content-oriented Marxist literary movement. On the other hand, in Russia at the same time, Russian Formalism had begun, and included a revived new literary rhetoric. The debate between extremely content-oriented socialist realism and the formalistic thought was so heated that eventually Russian formalism was suppressed by the government. However, the legacy of Russian formalism was imported to French after a long time and recognized as the origin of contemporary literary theories, especially contemporary narratology, that explicitly distinguished between literary rhetoric and narrative rhetoric. Moreover, dependent on our rich literary and narrative tradition, narratology and rhetorical literary theories were introduced into our literary thought and practice through the route of internal necessity.

On the other hand, Yamoto (1974) published a book with a symbolic title, *Literary Technologies*, to apply the methods of literary technologies to various objects in Japanese literature. In the introductory part in this book, he clearly stated why he uses the term "literary technologies." According to his description, if literature (though Yamoto mainly treats novels, poems, and critiques) intentionally constructs and represents, using the term technologies (*gijutsu*) is appropriate. The word for arts, skills, or techniques (*gikō*) is not adequate because it focuses on only the micro level rhetoric of objects

except for the construction and structure. Similarly, the word for methods (*hōhō*) is also inadequate because it is not concrete. Finally, he used the word for technologies as a word that encompasses diverse aspects of literature, from the level of the whole construction or structure to the level of detailed rhetorical representation. In this introductory part, he listed *Bungakuron* by Sōseki Natsume (1867-1916) in addition to Walter Pater (1839-1894) and Susanne Langer (1895-1985) as the studies that most influenced him. The main parts of this book are divided into “Technologies in poems,” “Novel’s technological theories,” and “Criticisms as technologies.” The second part introduces several classical novelists, including Henry James (1843-1916), Percy Lubbock (1879-1965), and William Forster (1818-1886), and discusses aspects of the novel’s technologies, such as a character’s description, background or environment, temporal representation, plot, viewpoint or perspective, and descriptive form. The third part introduces many criticisms, including Analytical Criticism by Ivor Richards (1893-1979) and William Empson (1906-1984), New Criticism by Cleanth Brooks (1906-1944) and other researchers, Literary Image Studies by Mitsutomo Doi (1886-1979) and other researches, Architype Criticism and Myth Criticism by Northrop Frye (1912-1991), Mitsutomo Doi, and others, Geneva School’s critics, to analyze his literary objects. In addition, this book dealt with many Japanese poems and novels as his analytical objects.

Although the author also has an idea that a narrative is regarded as a system of technologies, the author believes that narratology (and narratological literary theories), which have approached narratives precisely, are a starting point for narrative technologies. For the author, narratology is a strong tool of awareness for narrative technologies and for calling them up. However, although it is certain that narrative practices by people, whether consciously or unconsciously, are executed by a synthesized usage of narrative technologies, narratology and related literary theories are regarded as a kind of autopsy of narratives and literary texts when considered as a superficial aspect of the synthetic process. That kind of evaluation has also relied on the basic research method or direction that positioned narratology as a method for analysis, interpretation, and reading. In contrast, narratology and related literary theories can be comprehended as a synthesized technology for constructive narrative practice. This was a big differentiating factor of the author’s narratological study from previous narratology that focused on only narrative analysis and interpretation. In particular, the author’s study utilizes narratological technologies for the synthesis and re-construction of a narrative or narratives.

However, the usage here does not necessarily mean that knowledge by narratology is directly used in a narrative production. Kenzaburō Ōe (1935-) wrote a novel by directly using several results acquired from the narrative analysis by Masao Yamaguchi (1931-2013). There were also meta-fictions that introduced literary theories into the works. Ōtsuka (2013) used the results of structural narrative studies by Propp and Joseph Campbell (1904-1987) (1949) as a kind of manual for making “character novels.” However, these are, so to speak, transient phenomena. On the other hand, an informational system enables the construction of a mechanism in which the technology is not estranged from the usage and both are integrated. In this case, constructing a system means the clear manifestation of technology. At the same time, amplifying a part or aspect in the possibilities of technological usage is also possible. For example, informational systems show a greater ability than humans for monotonous repetition and combination. In summary, an informational system that externalizes a narrative technological system enables amplification and defamiliarization of the original characteristics of narrative technologies. The informational construction of narrative technologies needs a process in which an event is repeatedly executed according to a clearly described order and the description needs to be positioned on a different level from the object itself, namely the meta-level. In particular, the informational system describes an actually possible procedure for making or executing an object using controlled meta-level language. When the description is clearly shown as a physical document at a different level from the term system that is used inside the object itself, it becomes a document that is possible to be referred to during the object’s practice and to control the reference. Of course, such description may be possible through oral communication of narratives. In the past when narratives and arts were naturally a technological system, the author supposes that such technological documents existed ordinarily. In the age that narrative was understood or expected from the viewpoint of personal creativity, such narrative tradition declined. When the author was a child learning to write, the writer’s personality, and realistic and natural expression were encouraged. In contrast, writing style and techniques, namely narrative technology, were disregarded. Narratology was on the path to develop meta-level documents of narrative technology as structuralism got militant in the areas of each academic discipline, including narratology. However, narratology actually turned in the direction of reading and the development of “interpretation strategies” in the wake of reception theory, discourse theory, and cultural studies. Thus, narratology did not pursue the technological directions that Propp, Greimas, and Genette had originally embarked upon. Such a situation may be based on

current society's reality. In particular, in the current social institution, literary reading and interpretation are alienated from their creation and production. Many literary researchers have participated in the education for methods of literary reading and interpretation. In contrast, literary and related genres' writers are engaged in writing activities based on emphasizing the creator's personality and creativity. Although they actually use many practical writing technologies or narrative technologies, they do not clearly state them. From the above viewpoint, the author's narrative generation study aims to produce narratives by documenting narrative technologies as computer programs functioning in the meta-level for the task of narrative generation. Although the extreme or ideal form is that a narrative generation system produces a final narrative production, the actual completion will be realized through the collaboration between a human writer and a narrative generation system.

Additionally, one of the reasons that the author is discussing narrative generation using the words technology and management is to avoid discussing creativity and intentionality. During the historical development of literature and narrative, various words such as uniqueness, creativity, originality, novelty, and personality have meant rather new and special concepts. In particular, the author has studied Japanese narratives and literary works such as *kabuki*, which have focused on historically inherited technological forms and tradition, and considered personal creativity in relation to existing forms and tradition. The latter idea does not excessively emphasize human psychological concepts. Figuratively speaking, the author considers narrative generation phenomena and texts as akin to the generation and transformation of physical objects and the fluidity of life systems.

What is Narrative Management?

The author presented the concept of narrative management that is organically related to the concept of narrative technology. Simply speaking, if narrative technology corresponds to "what," narrative management is equal to "how." If "what" is more direct and refers, so to speak, to a material mechanism, "how" is a more indirect mechanism in the meta-level or the control mechanism. In other words, narrative technology means the concrete operation itself for an articulated object. On the other hand, narrative management is a more abstract power that controls and operates the concrete power.

Narrative management is a mechanism that, in the space where many narrative technological elements are collected, selects and allocates each specific element to conduct concrete narrative generation tasks in a goal-

oriented manner or strategically. In other words, narrative management means an ability to construct an actually realized and stabilized narrative architecture in a potential narrative generation space through the selection and allocation of specific technologies. In this idea, narrative technologies are diffusing, self-performative and self-realized things. The narrative technologies do not know their meaning and role. The narrative technologies are anarchic and fluid. From such narrative technologies, narrative management adequately selects and allocates specific technologies according to each environment and situation, and executes specific technologies to produce an actually fixed narrative.

Narrative technologies were divided into the natural technologies that are originally contained in narrative phenomena and the systemized technologies through actualization and explicit representation (narratology is a medium). Similarly, narrative management can also be divided into the managerial aspect that narratives themselves originally have and narrative management as a system based on its externalized mechanism.

In addition, the term narrative management partially borrowed from business administration as an academic genre. As the author will mention in the next section, the author presents the concept of “multiple narrative structures model” that considers an entire narrative generation process as a mechanism in which various different levels from micro to more macro levels are organically integrated. The model partially refers to the problem of organizational administration that is a topic in business studies in the narrow sense. For instance, the problem of organizations, such as publishers and TV companies, and business systems that produce and distribute narrative contents are possible and needed to be treated by the methods of business administration and management science. However, the word management is used here more as an essentially broad or special meaning. For example, the author thinks that when a novelist makes a plan and overview of a novel in her/his brain, the novelist uses narrative managerial methods to converge the usage of narrative technologies into the form that is unique in the genre of the novel. Therefore, narrative management here is an integrated concept that contains various levels, from the personal scale such as the writing by a novelist to the collective and organizational scale including the production work of a movie or computer game.

The concepts of narrative technology and management may be based on the author’s need or desire. In particular, the need or desire supporting the author’s narrative generation system is to define the basic elements or units that correspond to cells or molecules in the narrative and physically determine

their structures and structure transformation process. At the same time, the author intends to comprehend and model as a kind of production process instead of a psychological process. Finally, both narrative technology and management are not completely separate concepts. It is not correct to say that narrative management controls and executes narrative technology from the outside. When a behavior of the narrative technology shows a characteristic and repeated pattern, it is called a result and conversely the pattern can be used as a kind of existing strategic control function.

Multiple Narrative Structures

This section, based on Ogata (2016, 2018), considers the multiple narrative structures model in detail.

An Overview of Multiple Narrative Structures

The multiple narrative structures model is not only a concept composed of ELT in the extended sense, but is also a concept that is positioned on a higher level as it is related to narrative generation systems, narrative works that are created using the systems, and further, to the entire structure of the author's research. The multiple narrative structures model is a comprehensive research plan, which includes its methods. The basic idea is as follows: a basis of narrative generation is premised on the concept of "multiplicity" and narrative generation studies are required to be designed and developed accordingly. The fundamental concept of multiplicity is based on the complexity of narrative structures and representations of folklore that comprise the typical communication structure. When transitioning from a typical folkloric narrative structure, narratives that transform into diverse genres are multiply extended, for example, at the level of their elements or components, such as story and character.

This type of phenomenon indicates that a narrative, such as a *kabuki* play in the example, has multiple structures. Although it is partially related to the concept of the multiplicity of voices by Bakhtin, the author clearly divides the phenomenon of narrative generation into the following two levels for designing and developing narrative generation systems with a wider range and encapsulating multiple structures: (1) The level of the generation (and reception) process of a single narrative work and the work itself, and (2) The level of the production (and consumption) process of two or more narrative works and the sequential narrative including each of the narrative works. The

narrative generation process is a synthesis of both levels. However, this synthetic feature includes movement. A narrative or literary work is created through the generation process of the first level and, continuously, the second level enables the realization of its social development and distribution. Narrative generation, in the broad sense, encapsulates two of the levels concurrently.

Based on the recognition of the multiplicity or plurality of narratives, the narrative generation research described by the author was conducted based on a broad framework, which included a wide range of narratives, from narrative generation systems in a narrow sense, i.e., systems as computer programs, to narrative generation systems in a broad sense, i.e., systems as a method for dealing with collective societies of humans as a symbolic narrative generation system.

Detailed Consideration of Multiple Narrative Structures

In narrative, how to narrate, namely the narrator's world, is important in addition to, or even more than, what occurred, namely the world of characters. One origin of narrative complexity is based on the fusion of events and their recognition and report. Additionally, the narrative production and consumption process through media and organizations results in a complex and multiple structure in the communication between a narrator and characters. The author presented a multiple narrative structures model that comprehensively represents the diversity of narrative phenomena based on the multiplicity of a simple narrator-narratee relation as a core form.

This model is structured based on the multiplicity of narrative communication structures and the associative creation process to become an axis for synthetically grasping actual, complex, and diverse narrative phenomena. It is intended as a universal model containing all narrative genres and narrative phenomena in the macro level. Based on this theoretical framework, the author has planned to precisely analyze in detail narrative communication styles, narrative production and consumption processes from the personal level to the social level, rhetorical knowledge that is used for generating and transforming text structures through the above processes, etc., to construct a fundamental platform to develop the analysis results in the directions of technology, business, and literature and arts.

Of course, as it is a theoretical framework, the aim is not the cutting down of the complexity and diversity in narrative generation phenomena themselves. One of the true goals is to amplify the possibilities and practical abilities of diverse and rich narrative generation by creators by developing new creative

styles beyond previous restrictions through simply describing from the simple modeling viewpoint the superficial complexity of narrative phenomena related to various constraints of actual publishing, movie producing, etc.

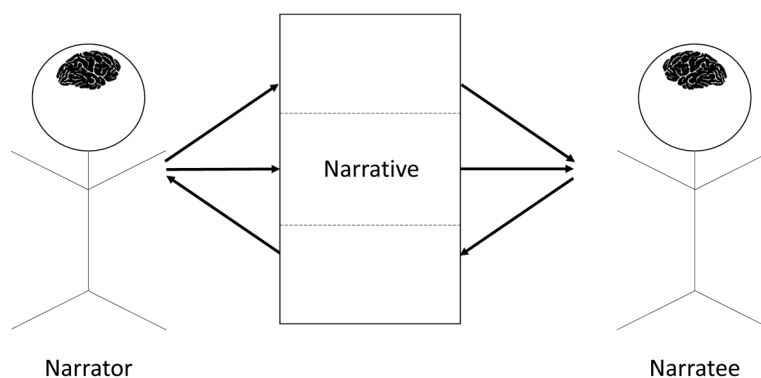
Furthermore, currently, we are surrounded by diverse narrative genres, or more correctly representation genres, that include narrative as an essential element, such as novels, movies, dramas, comics, computer games, commercial films, rumors, entertainment gossip, and big industry and market that can be considered based on the axis of narrative. Although the narrative industry mobilizes a variety of narrative knowledge and technology for narrative production, representation, and distribution, deep narrative knowledge related to narrative creation and interpretation was previously considered tacit and personal knowledge that was difficult to formalize and verbalize. However, the author's narrative generation study also aims to re-construct synthetically the diverse narrative phenomena in contemporary societies as an industrial business model for narrative content that is constructed from an external rhetorical system.

From the aspect of an act, narrative is a form of communication in human societies. Noe (1996) considered narrative functions and effects from the viewpoint that narrative is a narrative act through the communication between a narrator and narratee. Among literary theories, reception theory and reader-centric criticism emphasized the freedom of reading and interpretation by narratees (readers). However, the development of interactive media such as the computer is providing various problems of communication. Beyond previous reader-centric literary theories that were constructed based on indirect communication styles such as novels, the author would like to re-consider narrative communication styles according to the relations between narrator and narratee.

As shown in Figure 1, in the basic form of narrative communication structure, first, a narrator and narratee who face each other directly exist. The narrator extracts the seed of a narrative from the memory to extend and revise it, namely, orally narrates a narrative processed in the narrator's brain. On the other hand, the narratee understands and interprets the narrative, inserts questions and interludes, and transforms it.

By going upstream, narrative primitive form may be set on the level that is self-sufficient in a personal mind, such as dream and delusion, related to psychic medicine and neuro-scientific approaches. In addition, the author considered Freud's dream interpretation theory from the viewpoint of narrative generation (Saito & Ogata, 1998).

Figure 1. Direct communication style between a narrator and narratee



Similar to ordinal communication, the role change between the narrator and narratee is also possible. Such a form is called a narrative primitive communication structure. The narrative primitive communication structure is similar to the narrative form in oral tradition or oral literature that has been actively researched. For instance, Kawada (1992) observed and analyzed African oral narratives. Oral tradition has not necessarily ceased to exist completely. In Japan, until an age, narrator and narratee certainly existed in families, villages, and various social groups. In early childhood, the author also experienced dense oral and direct narrative communication with his grandfather. Additionally, currently, we can see the tradition of oral literature in urban legends, rumors, and little stories in our ordinary lives. The genre of rumor has strongly maintained the narrative primitive communication structure. As mentioned in Chapter 2, Kinoshita (1994) positioned rumors in the previous stage of folktales. However, in current Japan, narrative acts that purely have such a narrative primitive communication structure have been excluded from the main position of narrative phenomena.

In a narrative primitive communication structure, a narrator sends out a narrative part according to the situation and it immediately spreads to a narratee. In some cases, the narratee returns a response. In some other cases, the role change between the narrator and narratee occurs. In particular, the process in the narrative primitive communication structure is instantaneous and takes a psychological (internal) form in the sense that the narrator and narratee think, search their memories, and respond at that point in space and time. Moreover, the basic process of primitive communication is personal-based in the sense that a personal narrator and a personal narratee face each

other. However, in oral traditions, narratives that are typical forms of the above narrative structure, including folktales, myths, and legends, narrative memories and techniques in the narrators and narratees are basically associative with, so to speak, collective social knowledge bases through successive tradition. Actually, the personal level's narratives access the collective level's narratives. It indicates the circular structure of narrative differentiation at various levels.

Thus, although the narrative acts accompanying narrative primitive communication structure are currently the research objects of folklore and cultural anthropology as oral traditions, they are used in indirect and non-interactive narrative forms. For example, in new narrative genres such as the novel, film, and TV dramas, although we simply feel that the narrator or author of a narrative work sends the narrative to our readers and audiences, actually in many cases, the narrator sends the narrative to the internal narratee of the narrative instead of the readers or audiences according to the simulation or imitation of the above direct communication form. A point to notice is the narrator in this case exists outside of the narrative work and is not the actual author of the work. For instance, in *Arabian Nights*, Sherezade who is the internal narrator in the work directly continues to send stories to a king who is an internal narratee in the narrative in order to delay and avoid being killed by the king. Can a narrator as a narrative character who lives in the Meiji era directly narrate to us who live now? In particular, a narrative primitive structure is imitated inside the work. Our readers peek at the narrative communication between Sherezade and the king from a meta-level position. As described by Genette, even if it is a narrative that is drawn by a third person, the narrative always hides "I" who is an invented narrator. At the same time, even if it is not explicitly referred to in the narrative, a narrative has "you" as an invented narratee. Of course, in some stories, these "I" and "you", at a glance, overlap with a real author and a real reader or audience, respectively. However, the analysis of agent types related to a narrative theoretically and clearly divides narrative agents into the internal narrator in the narrative or "I" and the real author, and the internal narratee in the narrative or "you" and the real reader or audience.

As stated above, although the pure form of narrative communication seen in oral tradition is currently rare, actually all narratives include the form in which a narrator and narratee face each other to develop a narrative act.

Although in the narrative primitive communication structure, the following narrative process is executed based on the direct processing by the brain, the author bases the primitive form of the narrative generation-reception process in correspondence to the narrative primitive communication structure:

- (1) **Story Generation:** A narrator retrieves a narrative or its fragments from the memory and processes and edits them to generate a story that is the structure of the content or the narrative skeleton at the level of what is narrated.
- (2) **Narrative Representation:** The narrator translates the story into the concrete structure to be actually narrated. This structure is also called narrative discourse. Moreover, the narrative discourse structure is translated to a series of surface language expressions. These are rhetorical aspects in narrative generation.
- (3) **Narrative Communication:** The narrator speaks the narrative representation as language, and it reaches the narratee's sense of hearing through aerial vibration.
- (4) **Narrative Reception:** The narratee receives the narrative part sent by the narrator to construct mentally the interpretation structure. This reception process frequently includes various responses from the narratee to the narrator, such as direct questions and gestures.

In addition, this flow is ordinarily repeated.

As shown above, the narrative primitive communication structure is currently rare in the direct application. Moreover, as stated in detail in Chapter 2, this study recognizes the area covered by narrative in the following broad range:

- (1) Literary and artistic works in the broad sense, including novels, movies, and dramas.
- (2) Narrative discourses in a broader range, including advertisements and histories.
- (3) Social emergent phenomena, including rumors and folktales.
- (4) Discourses of an event or an event itself, or, so to speak, narrative knowledge as the framework of the construction and recognition of the world that invades the editing principle of the event.
- (5) Physiological and psychological phenomena, including dreams and delusions.

In addition, more genres that include narrative exist than narrative genres themselves. Therefore, narrative can invade all texts. For instance, in an advertisement genre, there are narrative advertisements and non-narrative advertisements. Many narrative genres are generated based on a more diverse and complex generative process in comparison with the process based

on the personal and collective memories and techniques in the primitive communication structure. Additionally, the primitive generation and reception process was a personal process. On the other hand, the author calls the framework with the collective and social level a narrative production and consumption process.

Thus, currently, many narratives that potentially have a narrative primitive communication structure are produced through the superposition of the complex generation process according to the diverse and large-scale media. In particular, these narratives are produced in the form in which the primitive communication structure is used inside each narrative work even if it is explicit or implicit.

For example, the author considers the production process of a movie work that has a complex and large-scale production and consumption form. First, the producer and powerful director conduct the planning and the scenario writer writes the scenario. The producer manages certain following parts. Next, dependent on the planning and scenario, the director creates the movie work itself through collaboration with assistant directors, actors, technical staff regarding music, light, etc. Moreover, advertising activities and distribution to movie theaters are carried out by the advertising planner and people related to the theatres. The created movie works are actually put on the screen by technicians and other people at the theatres, and audiences appreciate the works. Furthermore, a part of the audiences and critics speak and write their opinions and criticisms about the movie work. This is only a rough sketch and the detailed parts can have various possibilities. For instance, in many works by Takeshi Kitano (1947-), Kitano himself has several roles such as director and chief actor. Therefore, the above names such as producer and director basically mean a kind of function. The above description shows an overall process of the narrative production-consumption process of a movie work. However, the primitive communication structure is used in each film work having a complicated and large-scale production and consumption process. Excluding oral narratives and narratives in which the generation process and narrative communication closely complete in each person's mind such as dreams and delusions, in many current narrative phenomena, narratives imply the primitive narrative communication structure or are the parody of primitive narratives. Therefore, the narrator and narratee in many of the current narratives are not the narrator and narratee who really exist, but the narrator and narratee who are fictionally created inside each work.

Obviously, the real author and receiver (reader and audience) exist at the meta-level. They are the narrator and narratee who produce a narrative including the basic form of the narrative primitive communication structure.

As shown above, the real narrator here is not necessarily a person and it is frequently a collective existence that comprises various functions or roles, such as producer, scenario writer, and director. In case of movies or TV dramas, we frequently regard the author and scenario writer as the creator of the work. However, this study considers the narrative production and consumption process as a whole, including planning, creation, representation, and distribution. The author regards the whole integrated from each of the functions as the narrator as an author. Therefore, scenario writing and direction are positioned as a partial function of the author's function.

In addition, narratology defined the concept of the implied author in the medial position between the real author, which is frequently a collective existence, and the narrator inside the work. The implied author means the fictional author who, behind the narrative text, is considered to be responsible for the narrative sense of values, cultural settings, etc. and is theoretically differentiated from the concepts of real author and fictional narrator. The term virtual author is used in this study for the implied author. As another example, although we feel the author of *Chikamatsu Monogatari* (Mizoguchi & Nagata, 1954) is Kenji Mizoguchi (1898-1956), the author in the above sense includes all the people who joined in the film's production. The name of Kenji Mizoguchi is rather the implied author or virtual author who symbolizes the sense of values and the view of the narrative world of *Chikamatsu Monogatari*.

Furthermore, as shown in the above movie's example, there is a narrative level in which the work is advertised and socially distributed. In this case, the narrative as an image, including the author and audiences, is formed in the receiver's mental level or the collective-illusion's level of receivers. In the current society, the meta-level's narrators exist in forms such as advertisements and mass communication, and according to the narrators, the public exists as narratees.

Thus, despite its complexity and diversity, the relationship between narrator and narratee seen in the narrative primitive communication structure is multiply contained inside of a work, as the author and receiver in the broad sense, and in the subjects or groups who arrange a work and the related information and general receivers.

Now, the author calls the communication between a narrator and narratee performing at a space even if it is a virtual narrative communication situation or narrative situation. On the other hand, the narrative generated and received in this situation is called narrative content. The narrative content here means

more a comprehensive concept than the narrative content or story in the pair of story and narrative discourse. As shown in the following description, various narrative situations and narrative contents exist multiply:

- (1) **The First-Order Narrative Situation and the First-Order Narrative Content:** This is a narrative situation that is formed through the direct communication between a narrator and narratee to be the most internal level of narrative situations to be multiplied. When narrative situations are multiplied, this narrator and narratee become virtual existences. The narrative generated in the first level is called the first-order narrative content.
- (2) **The Second-Order Narrative Situation and the Second-Order Narrative Content:** This narrative situation is established by an implied or virtual narrator and an implied or virtual narratee, and the narrative generated by their mutual action is called the second-order narrative content. In particular, the second-order narrative content is equal to the first-order narrative situation. In this case, the narrative situation itself is regarded as a narrative content.
- (3) **The Third-Order Narrative Situation and the Third-Order Narrative Content:** This narrative situation means one in which an actually existing narrator (novelist, etc.) and narratee (reader, audience, etc.) mutually act through a narrative text in the narrow sense such as a novel and movie. In another sense, the third-order narrative situation corresponds to a narrative work, such as a novel and movie, that is symbolized by a specific author's name or a representative name which means the concept of implied or virtual narrator. The third-order narrative content here is also equal to the second-order narrative situation. In many contemporary narratives, the interaction between the real narrator and real narratee is indirect. For example, novelists and the readers do not directly face each other. Moreover, it is one-sided in many cases. For instance, novelists themselves do not accept the feedback from the readers. If a novelist accepts a reader's response, at least the written part of the novel is easily transformed.
- (4) **The Fourth-Order Narrative Situation and the Fourth-Order Narrative Content:** This narrative situation is established with a narrator and narratee participating as, in addition to a narrative, as the author, the advertising promotion and distribution for the characters inside the narrative. or actors playing the narrative's scenario. The fourth-order narrative content in this case is formed through collecting fragmental information more than a consistent narrative work. A consistent narrative

characteristic emerges through the image or collective-illusions that the collective receivers create from collecting fragmental narrative information. This level necessarily means a specific narrative genre such as advertisement. For instance, a novel about a novel can be written. The functional concepts of narrator and narratee are realized by various real subjects including novelist, scenario writer, director, etc.

Through various narrative situations, the substantial people who have roles are different. However, the role of agents who have a common objective of narrative production and reception is the same in each narrative situation. Each narrative agent will be able to be defined as a collection of abstract functions. The difference in narrative genres results in the difference of a narrative function's actual realization forms, namely the difference in what plays a role, such as the brain's direct thought, people who have roles each, or an organizational or social group. Of course, the narrative function in a person or a group finally reaches the personal thinking processes through the gradual division into the sub-functions. At an abstract functional level, the author intends to explore and analyze a functional set that is universal in the production and consumption processes in all narrative genres.

In his mind society theory, Marvin Minsky (1927-2016) (1988) modeled the human mind based on the analogy of a society to represent the mind as the interaction among many agents. Freud always modeled the process that various mental phenomena, for instance dreams are generated from human desire as a mechanism using social analogy. The basic idea in the author's study is also similar to their methods. The author considers that both the function that personal human generates a narrative and the function that a group, organization, or society produces a narrative can be modeled according to the same method at an abstract level. The author divides the narrative production and consumption framework at the macro level into the following four phases:

- (1) **Creation Process (1) (Planning Process):** This process is related to the basic planning and overview for the narrative to be generated. The narrative overview includes rough stories or plot development (temporal structure), etc. The realization forms include the planning of a narrative like a novel imagined in a personal brain, a planning draft written on paper, an individual text that can be read as a work, such as scenarios of a movie and drama. If a scenario itself was considered a narrative work, the production process has all the planning process, representation process,

distribution process, and reception process. This example indicates that the production and consumption process of a narrative hierarchically includes the narrative production and consumption process at a smaller level. The narrative business organization for entertainments and arts organizes the emergent narrative generation strategies including many small narrative generation units. It is regarded as a synthetic narrative production and consumption mechanism that systematically integrates many narrative processes.

- (2) **Planning Process (2) (Representation Process):** This stage includes the tasks of writing, direction, editing, and others that concretize a planning narrative in the representation level required by a specific genre using one or more specific representational modes from language, image, moving picture, voice, music, and so on.
- (3) **Mediation and Distribution Process:** This process is related to the distribution of a narrative work and the mediation with the receivers. Diverse media, such as book, television, radio, and computer, are used. The concrete distribution forms contain displaying a novel as books at bookshops, playing a *kabuki* work on a stage, and so on.
- (4) **Reception Process:** This is the process related to narrative reception and response by the receivers including readers and audiences. Although, in many modern narrative genres, the response by a receiver does not return directly to the previous production process, this stage principally involves this kind of feedback. Basically, the media used in the mediation and distribution process appears directly in front of the receivers and the place where the media exists becomes the narrative reception's place.

In addition, although, in cases of the arts produced by collective organizations like movies and TV dramas, the progression of the four-stage process and the distinction of phases are relatively strictly kept, in the case of personal arts like novels, they are frequently not clear. For example, there are cases in which the writer firstly presents a narrative work without conducting any planning, and planning and representation proceed simultaneously. The most extreme example is the automatic writing by surrealism by André Breton (1896-1966) (1964) and other poets and writers. However, if the representation is orally performed in front of the narratee, it is equal to the primitive communication form. That is, the above case also has unconscious idea formation, namely the planning process. A point to be emphasized is that, though the execution order and style of the phases is sometimes different, as

the functional collection itself is common through all the narrative genres and the functions and phases are flexibly connected, the actual realization forms are diverse. It may result in the diverse appearances of real narratives.

The narrative production-consumption process includes both the internal process, namely the process performed at the mental level of a personal subject, and the external process, namely the process developed by the collaborative acts of many real subjects in an organization or social group. For example, although the representation process of a novel is performed based on a personal internal and psychological thinking, the representation process of a motion picture work is developed through a collaboration by a producer, director, actors, and other participating staff. In particular, the collective aspect of narrative production-consumption, in many cases, exists in association with enlarging narrative or content industries and narrative production organizations.

As shown above, this study has explored a framework for the comprehensive understanding of the diversity of narrative phenomena from the psychological level to collective, organizational, and social levels based on both the model of the communication or interaction among narrative agents and the narrative production-consumption model. By narrative agent, the author means the abstract definition of each subject in the narrative production-consumption process and each agent having various functions for narrative production and consumption. The narrative agent includes, in the most abstract level, the concepts of narrator, narratee, character, and viewpoint agent. On the other hand, according to narrative genres and the difference of media used, the real forms of narrative agents are differentiated. Each real form is called the subject of narrative functions. Therefore, in the narrative production-consumption process, which is divided into the four processes of planning, representation, distribution, and reception, the narrative function is performed by the corresponding narrative agents, and more concrete subjects to complete a narrative through the integrated activities. The following description shows agents' types related to the narrative production-consumption process:

- (1) **Character:** It is an agent who acts in a narrative world and has external and internal properties.
- (2) **Viewpoint Agent:** It is an agent who is in the position of observing the characters' acts in a narrative world. Sometimes, it is completely equivalent to the viewpoint of a specific character or narrator. In contrast, there are also viewpoint agents who float like ghosts by displacing their positions all the time. The reason the author sets this agent is that, in narratives, the phenomenon of a narrator reporting things that the narrator

sees and knows is not necessarily ordinary. For instance, in a novel in which a character is a narrator, if this narrator narrates a situation or event that the narrator cannot see or experience logically or actually, the readers naturally sense the narrative phenomenon.

- (3) **Internal Narrator of Narrative:** It is an agent who reports a character's external and internal action in the narrative world to the narratee. An example is "I" in *Kinkakuji* (Mishima, 2001) (in this case, the narrator is a main character). Of course, this narrator is not equal to Yukio Mishima (1925-1970) and, as mentioned above, this narrator is not necessarily the viewpoint agent.
- (4) **Internal Narratee of Narrative:** It is an agent who conducts the roles of the receiver receiving the report by the narrator inside the narrative. The roles include evaluation and response and they are returned to the narrator. In a special case, the narratee becomes the narrator. In particular, the roles of narrator and narratee are floating and mutually exchangeable.
- (5) **Virtual Author (Narrator):** It is an agent who is named, so to speak, "author." For example, the virtual agent has a complicated value consciousness and world view that is focused on the proper noun "Yukio Mishima." In the terms of narratology, it corresponds to implied author.
- (6) **Virtual Reader (Receiver):** It is an agent of the reader or receiver who expects the narrative reception and corresponds to implied reader in narratology. This reader means a virtual reader or receiver formed according to the world view and sense of values in the implied author.
- (7) **Real Author (Sender):** It is an agent in the level that socially sends the entire narrative work. This is really constructed as a synthesis of various social media such as publishers and newspaper companies. For instance, Yukio Mishima, who was recorded and memorized as he really existed, is only an element for various roles in the narrative production-consumption process of novels, though he is the most important, efficient, and indispensable element.
- (8) **Real Reader (Receiver):** It is each reader or receiver (or narratee) who receives a narrative work through social systems.
- (9) **Collective Author (Sender):** It is a narrator seen as a social collection in the level that collectively constructs narratives such as rumors and oral traditions. This level is made in case of collaborative and spontaneous narratives by many real senders. This level corresponds to the sequence and complication of the primitive communication between a narrator and narratee. However, the narrative formed between the narrator and

narratee is not a personally constructed narrative. It is a narrative that is constructed in the social space, the place in a collective-illusion, different from any personal levels.

- (10) **Collective Reader (Receiver):** Similarly, it is a social narratee who receives a narrative in a social and collective situation.

Each agent partially has the following knowledge related to narrative creation and simulation. First, the knowledge includes external and internal properties in characters, narrator and narratee, and viewpoint agents. Next, there is the knowledge for actions which characters, narrator, and narratee have. Furthermore, as the knowledge given to the narrator especially, and sometimes to characters and narratee, there is rhetorical knowledge in the broad sense, including dictionary systems of concepts and words, knowledge of the connective relations between events, knowledge of the sequential relations among events, knowledge of the creation and operation of narrative objects, rhetorical knowledge of narrative discourse, and technical knowledge of narrative representation. In the level of real author (sender) and reader (receiver), in addition to the above personal and psychological concepts, the concepts related to organizational and social system and process are added.

Based on the previous description, the multiple narrative structures model is the framework for comprehensively and synthetically understanding a narrative phenomenon that goes through a psychological level, a collective and organizational level, and a social level using the model of communication or interaction among narrative agents and the narrative production-consumption model as, so to speak, warp and woof. A narrative is produced through the planning, representation, distribution, and reception processes in each narrative situation. Each process has the spectrum from personal (internal, psychological) to social (external, collaborative).

The above four narrative situations have the same structure and process respectively and the whole has a multiple structure (multiplicity is also seen in each situation). However, the degree of the control by narrative situations is different by narrative genre. For example, narratives such as oral tradition are controlled by only the first-order narrative situation and narratives such as the novel and film multiply comprehend from the first-order to the third-order narrative situations. On the other hand, narratives such as rumor are produced from all categories of narrative situations.

Each narrative situation is characterized based on which stage is emphasized in the narrative production-consumption process and which is basic in personal methods and social methods. The first-order narrative situation is focused

on structural, representative (especially language), and receptive aspects and the distribution is instantaneous and simple. Moreover, through all the phases, the basic is a personal production and consumption process. Next, the second-order narrative situation can be regarded as the extension of the first-order narrative situation. The third-order narrative situation focuses on all process elements. Although each process element is complicated, the distribution process especially uses the social production-consumption method as the basis and the representation process is intermediate. The basis of other processes is the personal production and consumption method. Finally, in the fourth narrative situation, the distribution process is especially complicated and social production-consumption is the basic method through all of the processes.

Embodying this model based on more concrete and detailed procedural knowledge that finally reaches defining an abstract function set for actually operating narrative structures enables simulations of narrative production-consumption at various levels, including simulations at the personal level, the collective and organizational levels, social level, and in the processes of the emergence of the social level's narratives from the personal level's production and consumption.

Narrative Generation: The Synthesis as/through Generation

In the above discussion, the author divided a narrative generation system into several stages and explained the stages and the relationships from the division and multiplicity of narrator and narratee. Based on the framework of narrative generation, narrative phenomena can be comprehended from spatial and temporal perspectives. Spatially, narrators and narratees in various levels exist in a social framework and narrative generation mechanisms are always performed. On the other hand, temporarily, we can consider the following narrative generation process. In particular, first, narratives in a core level can be concretized into various genres through narrative technologies and management and each generated narrative transited to the complicated and sequential production-consumption process. Furthermore, institutional narratives that function as norms and rules in a society work as a kind of collective-illusion. When we look based on the confluent relations among the stages, there is the relation that later stages in the flow regulate the prior stages as a restriction or strategy. On the other hand, we can see the relation through which the prior stages influence later stages to change the characteristics of

restriction and strategy. Therefore, although the extension and development are necessarily not performed, the following description shows a temporarily generated simulation of a narrative or narratives according to the flow from the most primitive narrative occurrence to the complicated:

- (1) First, the primitive narration in the direct, dialogical communicational situation forms the core narrative. The narrator and narratee division in this stage are fixed before and exchangeable. Dream as a direct narrative is also included in this level. Or, when a reader reads a novel, if the reader is completely involved in the world of the novel and is unified with the narratee inside the novel, the situation may correspond to this stage. However, as the internal world and external world, such as the world of the reader, are divided in novels, the narrative genre of the novel belongs to the next category.
- (2) The managerial control from the higher level, which means the logic in a different level from the logic inside the narrative, occurs for a core narrative and the narrator and narratee are differentiated into the narrator and narratee inside a narrative (the narrator and narratee as author and reader, etc.). Furthermore, according to the complicatedness of the narrative developmental structure based on the narrative discourse's technologies, the narrative is invested with various representation media, including language, image, sound, music, and body. In addition, although the narratives of the above (1) are expressed by any representation media, we cannot see the clear division from stage (2).
- (3) In this stage, according to the control based on the constraint of narrative genres, the generating narrative is translated into various structures, such as story structure and narrative discourse structure, and the specific representation medium is selected and arranged for the surface narrative text. The above processing corresponds to the narrative generation as a simple narrative.
- (4) The narrative generated through the above stages has the potential for producing other narratives through the rhetorical power in the narrative and the associative relations among concepts of the external world and other texts. This shows a comprehensive system that sequentially and multiply produces many narratives. *Geinō* Information System (GIS) is a concrete model of such a comprehensive system.
- (5) Moreover, a wide variety of narratives based on the original narrative and the associative narratives produced by the sequential and complicated narrative production-consumption system have arisen to arrive at

collective narratives exceeding the level of each narrative. These collective narratives arouse a kind of institutional power that gives values to the narratives and the related narrative phenomena in the production and consumption process. At the same time, or in contrast, the collective narratives are generated under the influence of the institutional power. The institutional power is, on one hand, realized as socially substantiated mechanisms such as political mechanisms and economic mechanisms. On the other hand, it functions as a kind of law of people's thinking, whether it is conscious or unconscious. The institutional power absorbs social narratives to invent and make parts accompanying a kind of density such as specific objects and topics and has substantive and non-substantive influences on the entire narrative phenomena. This level is the outmost edge of the multiple narrative generation system. Collective narratives generated in this level, at the same time, are narratives like legends, myths, and folktales. In particular, the narrative in stage (5) is circularly connected to the narratives in stage (1) or similar to dream narratives. Although dreams are generated through personal unconsciousness, legends, myths, and folktales are generated by collective consciousness. However, if each person is a phenomenon reflecting the characteristics of the surrounding environment, dream narratives overlap with the narratives of legends, myths, and folktales.

In an image intended by the author based on the above narrative generation process, for example, a narrator is born and generates a primitive narrative from the dreams and the conversational situations with the mother. Then, the narrator specifies the narrative into a work style that can be socially accepted and the narrative production-consumption activity sequentially continues to the stage where a shrine is built. Furthermore, the following descriptions show narrative generation processes of Yukio Mishima and *kabuki*. In addition, concerning Mishima, as the author (Ogata, 2018) showed an analysis of his *Gogo no Eikō* (Mishima, 2001). The first example is Yukio Mishima as narrative generation-reception/narrative production-consumption:

- **The Generation of an Author**
- **A Single Content's Narrative Generation**
 - The Generation of Ideas and Planning of the Work: The generation of thought by the author regarding the planning of the work.
 - The Generation of the Work (1): The work's generation in the level of a story.

Theoretical or Philosophical Considerations for an Integrated Narrative Generation Approach

- The Generation of the Work (2): The work's generation in the level of a narrative discourse.
- The Generation of the Work (3): The work's generation in the level of a narrative representation.
- The Generation of the Work (4): The work's generation in the level of revision.
- The Generation of Published Book: Revision, printing, and publishing as a book.
- The Generation of the Published Book in the Distribution Process: Sending the published book into the distribution process.
- The Generation of Advertising and Other Deriving Works: Generating advertising and other derived contents for the published book.
- The Generation of Purchasing Acts: Getting the published book by the readers.
- The Generation of Reception: Generating reception acts of the published book by readers.
- The Generation of Evaluation (1): Generating evaluation acts of the published book by individual readers.
- The Generation of Evaluation (2): Generating evaluation acts of the published book by individual critics.
- The Generation of Cognition: Generating recognition of the published book by the author.
- **Complicated Narrative Generation**
 - The Generation of Derivative Works: Generating derivative works from the published books by many writers and artists.
 - The Generation of the Next Work: Generating the next work by the author.

Next, the author shows an example based on the narrative generation process based on *kabuki*:

- **Complicated Narrative Generation**
 - The Generation of Authors: Generating the people related to a *kabuki* work.
- **A Single Content's Narrative Generation**
 - The Generation of Ideas and Planning of the Work: Generating ideas and planning of a *kabuki* work by people related to the work.

- The Generation of a Scenario (1): Generating or editing a story in the scenario of a *kabuki* work.
- The Generation of a Scenario (2): Generating or editing the narrative discourse in the scenario of a *kabuki* work.
- The Generation of a Scenario (3): Generating or editing the narrative representation in the scenario of a *kabuki* work.
- The Generation of a Troupe or Performance Group: Generating the players for a *kabuki* work.
- The Generation of the Method of Direction and Staging of a *Kabuki* Work.
- The Generation of Advertising and Other Derived Works: Generating advertising and other derived contents for a *kabuki* work.
- The Generation of the Staging of a Theater.
- The Generation of Appreciation and Reception of a *Kabuki* Staging.
- The Generation of Evaluation (1): Generating evaluation acts of appreciation of a *kabuki* staging by receivers.
- The Generation of Evaluation (2): Generating evaluation acts of appreciation of a *kabuki* staging by critics.
- The Generation of Cognition: Generating recognition of a performed *kabuki* by the authors and other people related to a *kabuki*.
- **Complicated Narrative Generation**
 - The Generation of Derived Works: Generating derived works from a published book by many writers and artists.
 - The Generation of the Next Work: Generating the next work by the authors and other people related to *kabuki*.

The phenomena of narrative generation occur from various opportunities and through various routes. In a narrative generation process, when a change deviates from a norm, the narrative generation and the generated content are changed to a deviated one. In the process, when an orally represented narrative is written, it becomes a fixed narrative. Moreover, the situation in which writers create narratives in their brains shows a fluid narrative generation process. In contrast, when writers describe their narratives on paper and publish them, these become fixed narratives. These fluidity and fixation of

narrative generation are associative with the multiple narrative structures model because they are related to the situation in the model. Further, the narrative generation of *kabuki* is related to *Geinō* Information System (GIS), which will be described in Chapters 2 and 4 in detail in the sequel (Ogata, in press). It was based on a survey and analysis of Japanese folklore, performing arts (such as *kabuki*), and angles of the modern entertainment business. GIS corresponds to an actual example of the multiple narrative structure model.

This model is partially related to the theory of polyphony by Bakhtin (1984) and to the theory of intertextuality by Jurlia Kristeva (1941-) (1980). As stated previously, Bakhtin calls such types of novels that are not integrated by the author's single voice as polyphony novels. Kristeva proposed an idea that a document exists in a network having many documents or fragments including novels and other genres, whether or not the author is aware of the fact. In the contemporary situation, this idea on literature is strongly originally related to the documents and narratives produced by people on the Web.

These literary ideas show multiplicities in a literary work and networking relations. However, the multiple narrative structure model is more of a comprehensive research plan, including its methods. For the author, the basis of narrative generation is set on "multiplicity" and it is necessary that his narrative generation systems be designed and developed based on this model. Although the basic concept of multiplicity is based on the complexity of structures and representations of narratives that have a folkloric typical communication structure, it was extended to the level of elements or components such as the story, character, and so on. For instance, an actor who appears in a *kabuki* play demonstrates multiplicity. He plays one or more characters in the drama, is a person with a real body and a personal life history, as well as plays an actor with a name inherited historically in many cases.

GIS and the multiple narrative structures model are also closely related to the Japanese *geinō* such as the *kabuki*. In relation with the following philosophical concepts, circular narrative controls were implemented in the Integrated Narrative Generation System (INGS) according to Hans Robert Jauss's (1921-1997) (1970) reception theory and music composition functions. The concept of norm and deviation made from analyzing television commercials and the defamiliarization techniques by Shklovsky was also included in the reception theory in INGS. This concept was associated with the theories of Genette and Propp in relation to the narrative transformation techniques. Finally, the concept of fluidity and fixation strongly reflects the characteristics of information contents and narrative generation. It is related

to generative criticism in existing literary theories, but using different texts and methods will produce a new generative criticism based on the concept of fluidity and fixation. As remarked previously, the expanded ELT enables to consider discrete literary theories under the meta-level concepts.

Although the multiplicity in *kabuki* is similar to the multiplicity of voices by Bakhtin, the author clearly divides the phenomenon of narrative generation into the following two levels for designing and developing narrative generation systems that cover multiple structures with a wider range: (1) The level of the generation (and reception) process of a single narrative work and the work itself, and (2) The level of the production (and consumption) process of two or more narrative works and the sequential narrative including each of the narrative works. Multiple voices and structures are derived in each of the narratives. Of course, each of the narratives has various relationships with the narrative works by other authors. However, a narrative also has diverse associations with a sequence of narratives as the historical and social process in the production and consumption level or the organizational level. The production and consumption level or the organizational level contains the generation and reception level of a single narrative work.

GIS is a synthetic system model that integrates both levels. GIS is intended to perform a sequential narrative generation in organizational and social mechanisms, such as entertainment production organizations and publishing companies.

CONCEPTS FOR DYNAMIC NARRATIVE GENERATION PROCESSES

This study deals with the phenomena of narrative generation with always-continuing and generated things on the social and personal levels. The three types of philosophical concepts in the same group are “circular narrative control,” “norm-deviation,” and “fluidity-fixation,” and they dynamically control at the macro-level the above-mentioned continuing and generating narrative generation.

Circular Narrative Control

“Circular narrative control” means that a narrative generation process is performed through a sequential and continual process without a beginning and end, and it continues across different media and genres. This concept can

be used in to control INGS as described in Chapter 1 in the sequel (Ogata, in press). Many narrative generation systems produce a determined type of output information from a determined type of input information. However, one of the basic ideas is to be able to generate diverse types of output information from a variety of input information based on circular narrative control. The following description explains this concept using two examples that author has attempted.

This concept is related to some developed mechanisms. An attempt is seen in the narrative discourse phase of INGS (more detailed explanation will be provided in Chapter 1 in the sequel (Ogata, in press)). The control mechanism, which applies the reception theory by Jauss (1970), iteratively repeats the narrative discourse generation according to the interaction between a narrator and a narratee involved in the system. It is a mechanism that embodies the concept of circular narrative control. Although this mechanism is for a particular generation part, this concept originally aims to perform a free and flexible narrative ordering control for which the sequence or order of the operating modules or phases is not preliminarily decided. INGS in the current step partially achieves the concept in the aforementioned sense by introducing a music generation and transformation mechanism that the author has been developing in piecemeal fashion. The original idea asserted not only that music is the accompanied expressive medium of semiotic narrative representation, but that its input-output relations can be very flexible and diverse. This idea has been generalized to the relationship between music and narrative as a basic concept for narrative generation as an appearance of circular narrative control.

The circular narrative control is a design plan of narrative generation systems by the author, in particular in current INGS. The first meaning is iterative narrative generation, as shown in the aforementioned experimentally implemented mechanism for the narrative discourse phase. It will be connected to a method through which a narrative generation cycle is continued to get many generated results, and it will be synthesized to an edited and individual narrative work. In contrast, the second meaning is the part of a free and flexible control of the applicable order of narrative generation phases. For example, INGS should not fix the generation order among all modules or generation units including conceptual structure generation and surface expression generation. It should be designed to enable various and diverse generation courses and repletion. Furthermore, GIS is also a medium for the circular narrative control in the sense that the narrative production and consumption

mechanism repeat the various levels of narratives, such as individual narrative works, an actor's authentic narratives, an entire narrative of a sequence of each productive narrative, etc.

As the second example, a music generation mechanism was presented dependent on an original idea related to all of the phases of the integrated narrative generation system. This system is one developed based on narrative generation through circular mutual transformations between linguistic narratives and music. It is one function in the system in which narratives are circulatively generated through a mutual transformation process between music and language-based narrative or narrative conceptual representation. This mechanism, for instance, continuously repeats the next order: a narrative structure is constructed at first, and then the narrative is transformed into a musical structure. At last, the musical structure is anew transformed into a different narrative structure from the first narrative. A new narrative structure, in this case, can be made through the intervention of the musical processing without any direct operations to the narrative structure. The basis of this mechanism is to connect a musical structure to a narrative structure according to the following relation. As we prepare two levels of narrative conceptual representation structure for a story and a discourse, the music is also divided into the structure of "original music" corresponded to a story and the structure of "variation music" equivalent to a discourse. Figure 2 shows all the circulative pathways. In the circulation, both of a musical structure and a story structure are correlated each other. Briefly, the tree structure in a story, which contains a set of events, is corresponded to a musical tree structure with the similar form. Each narrative event including agents, objects, location, etc., is associated with a set of motifs or musical events through the structural mapping. A motif is a basic musical unit.

Figure 3 presents an example of the transformation mechanisms that transform a story structure to an original musical structure. A set of data for a piece of original music is generated from the structure of a story through the mechanisms. As mentioned above, this system combines the story as a linguistic representation and as a musical representation in a flexible order.

Norm and Deviation

From a more general viewpoint, this concept is associated with narrative transformation techniques from a story to a discourse, if a story is equal to a norm and discourse corresponds to deviation. This is related to the entire architecture of INGS, which includes a story generation mechanism and a

Figure 2. Possible pathways in the circular mechanism

Source: Akimoto and Ogata (2015)

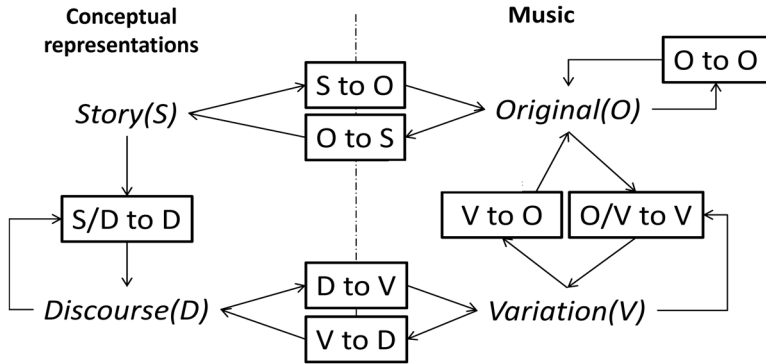
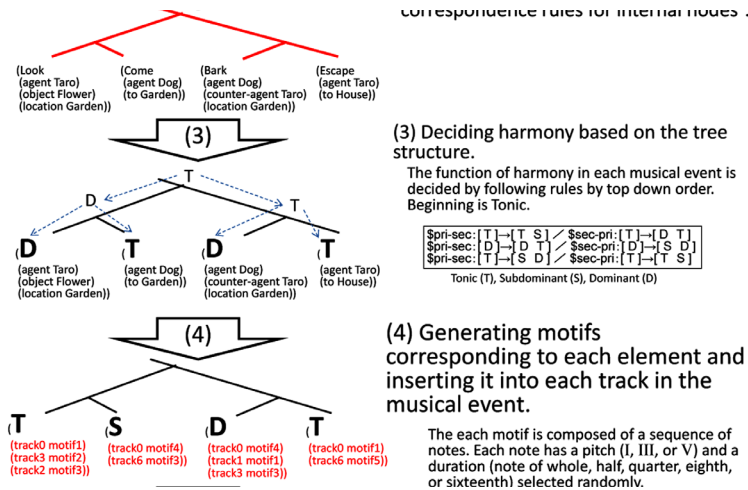


Figure 3. An example of transformation processes

Source: Akimoto and Ogata (2015)



narrative discourse mechanism as its main macro mechanisms. The concept is closely associated with the long flow of an entire narrative generation process. Of course, although each narrative technique related to the norm and deviation performs a temporary function at a specific place in the process of generating a story or narrative, the concept emphasizes that it is a controller through.

The concept of norm and deviation is a narrative control method based on norm, the standard framework by which a narrative generation process should be performed, and on the deviation from the norm. This is also related

to the concept of “defamiliarization” by Shklovsky (1990). In the author’s narrative generation study, the defamiliarization techniques were originally acquired by analyzing television commercials. In television commercials, various techniques for defamiliarizing and deviating from realistic events are employed to differentiate a commercial product. A television commercial scenario structurally has a narrative structure. The author applied the acquired rhetorical rules of defamiliarization to generate similar short scenarios (Zhang, Ono, & Ogata, 2011, 2012).

The author has attempted to employ and generalize the concept of norm and deviation in INGS. One of the methods used was the rhetorical defamiliarization rules in INGS. In relation to the attempt, the circular control based on Jauss’s theory was associated with the concept of norm and deviation through the development of a mechanism that repeats the process of deviating from a current narrative. Currently, attempts are being made to introduce the concept into the development of a general framework of as small-scale and exploratory systems.

A good example for explaining the concept of norm-deviation is the research of “product or brand introduction rhetoric in advertisement” proposed. This research corresponds to a component of the approaches to automatic advertisement scenario generation applied the narrative generation technologies. In particular, it analyzed many television advertisements from the viewpoint of “product introduction rhetoric” to bridge the results to an advertisement scenario generation system. As Chapter 3 in the sequel (Ogata, in press) treats this research as the main theme, the author shows only a brief overview of the system in this section. An advertisement story or narrative gets defined as a sequence of events. An example of an event would be “((action ‘drink) (agent ‘man) (object ‘soft-drink) (place ‘soccer-field) (time ‘daytime)).” In summary, the product introduction rhetoric contains various types of narrative techniques for each unit in an event. Refer to Chapter 3 in the sequel regarding the concrete types of rhetoric.

This study prepared three types of “standard rhetoric” and nine types of “defamiliarization rhetoric.” The former represents the ordinary processes in the production, purchase, and usage, and the latter corresponds to the deviated event representation in the elements, action, character, product, place, and time in the standard narrative development processes.

A point from the view of generation is that we can generate diverse events through the gradual and complicated application to an event of defamiliarized and deviated rhetoric. Although the most basic function in this system is to create a deviated event using types of defamiliarization rhetoric in combination,

the sequential or circular processing for an advertisement story enables scenario generation as a whole based on the concept of norm-deviation. Although many television advertisements are very short, they can have the same features as a completed narrative or story. The effective usage of deviation rhetoric needs to employ strategic knowledge in the meta level. Kanai, Ogata, and Shinohara (2002) acquired a basic pattern of strategic knowledge of advertisements to use in their experimental system.

The other method used is related to the conceptual dictionaries in INGS. From an overall viewpoint, conceptual dictionaries and other knowledge in INGS are basically described based on “realistic standard,” which means that realistic possibilities in the real world and canonical narrative generation functions generate narratives according to this standard. In contrast, to apply the techniques of deviation, defamiliarization techniques enable the systematic generation of narratives that deviate from the norm. In particular, the mechanism provides the constraint information set in the noun conceptual dictionary with a function for changing the definition of the range to adjust the range of the possible noun concepts in a generated event.

Fluidity and Fixation

Fluidity-fixation is a concept that shows two contrasting states or situations in the circular narrative generation control and narrative generation processes. “Fluidity” is the state or situation that narrative generation is always continuing, and “fixation” means the state in which the fluid movement stops. However, fixation in this case is not the situation in which a fluid situation completely stops, but means any point at which a fluid narrative situation suddenly spins off into another fluid narrative situation. A dynamic feature in narrative generation is generated through the relationships between fluid and fixed narrative states or situations.

The concept of “fluidity and fixation” was adopted as a concept to design and use various information contents, including narrative contents generated by INGS, related to narrative generation. Information contents have the following characteristics: capacities of free compilation, self-organization, and automatic generation. The concept of fluidity and fixation involves these characteristics. In the cases of previous and traditional contents, the author may consider these kinds of floating characteristics of contents in a human brain (through written texts) and in a social process of a human group or an organization to create fixed contents outside. In contrast, information contents

enable the fluidity itself to be brought out. A novel that an author has written is equivalent to a work in the world of traditional contents, whereas the writing or creating process involved in writing a novel can be considered as a work in the world of information contents and narrative generation. The creation by a narrative generation system will enable the representation and visualization of the narrative content generation at any stage of the narrative generation process. It may be regarded as a literary or artistic work.

This idea will open the possibilities of a variety of narrative representation forms, creation styles, and novel experiments. The following two types of forms are considered from the author's viewpoint on work as an information content: (1) the style in which the fluidity itself is equivalent to a work (the fixation), and (2) the form in which various means of processing are used to fix one or more works based on many or a huge number of works and the fragments generated through a fluid narrative generation process. One of the significant characteristics of information contents compared to traditional contents is that the fluidity of the information itself can be considered as a work. It results in the diversity of the forms or methods for fixing floating information. With few exceptions, a main research objective in traditional literary theories was the consideration of fixed works in the aforementioned sense. As an exception, generative criticism has dealt with the creation process of a literary work or an author's work based on the analysis of incomplete or ongoing manuscripts, etc. Also, in human authors, for instance, Kenji Miyazawa (1896-1933), an excellent Japanese poet and author, was known as a writer who wrote many incomplete and on-going works. The final works were not necessarily truly completed works or final works either, which were clearly intended by the author himself. Different works also exist with the same title, and these may be considered as fluid works. The concept of fluidity and fixation will help to treat consciously and expressly such literary situations. Simply, a narrative generation process corresponds to a fluidity process, whereas a resulting work (content) is the fixation. Narrative generation systems enable representing the process itself, as well as transform the process into a narrative work (content). They also open the door to experimenting with possibilities different from previous forms and styles, such as various representation forms of narrative contents, many kinds of creation styles of narrative contents, etc.

As an example, *Narrative Forest (NF)* (Akimoto, Ono, & Ogata, 2012) has been developed in connection with the concept of fluidity and fixation. In this visualized system, a changing and fluid narrative generation process is represented as a tree and a forest, and the user can see a fixed narrative in a certain moment. A tree corresponds to a narrative, and a collection of trees

is regarded as a forest. The forest world changes according to a continuous narrative generation process. Although this is a representation of the fluidity process of a narrative, it is not merely a visualization or explanation. The true aim was that such a mechanism in which a generation process is equal to the fluidity process itself corresponds to the content of a work. The process of writing a novel itself can now be considered as a form of fluidity, in addition to the previous method in which an author's work itself can be considered as a form of fixation. Various possibilities can be imagined. For example, in the content generation in a generation process, a reader can cut and edit only the part that he/she likes or feels beautiful to make a fixed work.

The author also considered regarding fluidity-fixation through the concepts of "*datsuryoku-sei*" (the state or possibility of relaxation) and "*tōkaku-sei*" (the state or possibility of integrated recognition) (Ogata, 2010). This discussion is again introduced in Chapter 4 in the sequel (Ogata, in press), which considers that, when we try to embed or locate narratives into the human cognitive process or mechanism, the most basic and simplified intelligent action model inside a world or environment will take the form of "perception (of the world or environment) - recognition - action (to the world or environment)." In addition, the world or environment in this case does not necessarily mean only the world or environment external to humans but sometimes means the humans' internal world. A human characteristic in this model is the enlargement of "recognition." Although this cycle is carried on within humans' short term memory in a brief time and through simple actions, recognition relates to both episodic memory and other long term memories. Aoki (2017a, 2017b) stated, through his experiences counseling university students with learning disorders, that in some students, much of their memory content occupied their short term memory but overflowed into long term memory; as a result, these students fixated on trivial things and were not to take appropriate actions in an environment. If the enlargement of recognition is a similar phenomenon, humans may experience this as a developmental disorder.

Further, humans acquire a viewpoint by integrating their recognition from plural coexistences of possibilities into a consistent image of the world with an integrated viewpoint. This is acquisition through generation or formation. Humans can draw a fixed and integrated image through relaxant and fluid possibilities to realize various actions in relation to the image. This image corresponds to the above discussion of recognition. Narrative generation phenomena are also conducted on this model: primitive narratives are narratives created as actions without complex recognition. In contrast, narratives as

art or literature accompany more dramatic recognitions and images using multiple long term memories. In the stage of “action,” diverse experimental simulations are repeated using imagination effectively.

The mechanisms of relaxation and integrated recognition also work in this stage. Simulation as a narrative action between the relaxant feature or fluidity and an integrated recognized feature or fixation is one of the most significant essentials of narratives. Such narrative possibilities, including both world recognition and the actions in the world, is a fundamental reason of that, unlike other animals, humans constructed gradually developing self-illusions, pair-illusions, and communal-illusions or collective-illusions (Yoshimoto, 1968). In each area of the three illusions, they created cultural products (not in the narrow sense but in the physical-experiential sense) apart from the real or physical worlds to continue their development.

In response to the above hypothetical thoughts, the author located narratives on the processes of human perception-recognition-action. The concepts of relaxant features (fluidity) and integrated features (fixation) are related to conduct on these processes. However, this model does not mean that we transparently understand the many narrative possibilities that actually exist. In many cases, fluidity and fixation look like simultaneous phenomena. Moreover, in the real world, fixation and integration both look actually and pragmatically important. However, the situations in which making a fixed narrative fluid is important; that kind of hesitating is encouraged frequently (“Stop and consider your choices”) at both the individual and societal levels. Although some kinds of fluidities are driven out for various reasons (e.g., viewed as mental disorders or antisocial actions), they become motivating forces for innovation.

Finally, just as Ogata and Kanai (2010) described a philosophical consideration concerning the fluidity and fixation, Chapter 4 in the sequel (Ogata, in press) contains a slightly revised version. In the next discussion, the concept of fluidity-fixation plays a role along with other philosophical concepts, especially the multiple narrative structures model.

PLURAL STRATEGIES IN NARRATIVE GENERATION AS A SYNTHETIC DISCUSSION

This section discusses “plural strategies” as another philosophical topic in narrative generation. This concept corresponds to the level that synthetically comprehends various philosophical concepts, including the aforementioned

themes. Therefore, the following description is a kind of synthesized discussion of the various topics in this section. This section is based on Ogata and Kanai (2010). Although the original description was inspired by considering advertisement narratives and the following description is also partially related to original tendency, the range of discussion is extended to the more general problem of narrative generation.

An Objective of Discussion

The content of this section was originally inspired by advertisements. Moreover, as this discussion is related to the theme of Chapter 3 in the sequel (Ogata, in press), the author would like to begin the discussion on the relation to advertisement narratives.

Although the ultimate objective of advertisements is not that they be narratives, they frequently tell stories and use narrative techniques effectively. In current marketing strategies in which brand establishment is one of the most important goals, narratives are placed centrally to the brand as a semantic collection (Yokouchi, 2003; Zaltman, 2003). In contrast, from the narrative side, advertising is a narrative genre and a practical narrative. However, advertisements are a practical form of narrative and a “mythic narrative,” a multifaceted narrative genre. Discussing advertisements as narrative means showing the long range of the narrative’s practical usage and the narrative’s multifaceted features to make the point that narrative is not limited to literature and the arts. This theme was originally inspired by considering advertisements as narratives, and the general objective was to consider the problem of narrative plurality. Further, the final objective was not only analysis and interpretation, but the design and development of software systems that simulate narratives or automatically generate narratives.

Another background of the discussion was the multiple narrative structures model. As stated in this chapter, the multiple narrative structures model comprehensively represents a general characteristic of narratives that contain diversity. From generation, it is a framework that can apply a narrative generation model to diverse narrative generation phenomena, including various genres and types.

The multiple narrative structures model grasps narrative phenomena with diverse forms as multiplicity based on the simplest model of the relationships between narrators and narratees. It aims to expand the personal level of both narrator and narratee to organizational and collective narrative generation

units within a single theoretical framework. The author had thought of these processes as functions different from the functions at a substantial level. For instance, a novel is written by a novelist. Although that novelist corresponds to a narrator at one level, a virtual narrator in the novel exists in a lower level and the publisher exists as narrator in a higher level. The narrator in the novel is contained by the novelist, and the novelist is understood by the publisher. The existence of a virtual narrator in the novel clearly shows the basic mechanism of a created narrator, and the mechanism appears with the novelist and publisher. The basic principle of multiple narrators is common in other narrative genres. Although it is a summary of the idea of the multiple narrative structures model, the author has attempted to extract and describe the various narrators' tasks in different narratives to systematize their specific narrative functions.

The author divided the themes of the multiple narrative structures model based on the relationships between narrators and narratee into the following three aspects: (1) cognitive subjects and processes related to narrative production and consumption; (2) narrative texts that are produced and consumed; and (3) cognitive subjects and the socialization of narrative texts. The second aspect of the multiplicity in a produced narrative text means the actual narrative structure and the representation and other possibilities. The third means the multiplicity in a narrative social system containing "the social multiplicity of narrative production and consumption agents as substances," "narrative social distribution," and "narrative social networks." The first aspect focuses on the outer world of multiple narrative structures as seen from the narrative agents—that is, the subjects or players of the narrative generation. The second holds that a text sequentially produces other texts and genres beyond its initial distribution. The last aspect deals with the intertextual social knowledge bases of narratives that are not substantial.

Dependent on the above considerations, this section focuses on "plurality" as a basic component of this narrative generation system study. Although the term of plurality includes the term and meaning of multiplicity, it has other, wider meanings. Comparatively, the term multiplicity is relatively static and represents the narrative phenomena of multiple narrative generation and construction. In contrast, plurality is a dynamic concept and an actual concept in any operation. It is an idea that puts plants a flag or declares a point or dominant elements. For example, when a narrative exists in the multiplicity of structures A and B, it has the plurality of structure A in one time or as structure B in another time. When we think from the receivers' side, plurality is realized by a specific, selected state, whether positive or negative. On the

other hand, from the senders' side, plurality can be operated for the receivers. Although the multiplicity focuses on various elements existing at the same time or equally, plurality does not commit to such simultaneity and equality.

In summary, from the viewpoint of narrative generation, the term "narrative plurality" is used to mean the following: narrative components are diverse; narrative generation is possible from all the dominant components; and although a narrative generation process is performed through the dominant points in a narrative structure, the possibilities are myriad and diverse. Relatively speaking, the states' space of possibilities is multi-diverse; narrative execution requires narrowing the breadth of possibilities according to several parameters to concretize it as a real product. These parameters can be selected plurally.

Plurality of Narrative Structures and Their Generation Processes

This section discusses conceptually the idea of plurality from various perspectives and considers the methods for concretizing it in narrative generation systems.

The Conceptual Consideration from Various Perspectives

The author considers narrative multiplicity from the viewpoint of narrative generation. We can execute a narrative generation process according to event-development logics such as causal-event relations and associative relations among events. Moreover, in narrative representation techniques, different narrative elements, including the elements of a story, description of an event, mental states of a character, and an object and idea in a narrative, can be emphasized. The kinds and differences of media are also important relative to elements, and the selection of a specific medium results in sequential influences on other narrative elements.

As a narrative work contains diverse elements, when a specific narrative work is formed, one or more elements is dominant in determining the actual form. Even if the characteristics in actualized narratives differ, the route taken in making a narrative is potentially infinite. Differences in processing regarding real and fictional narratives result in different narrative types, including histories, news stories, fantasies, and dreams. The mechanisms are not limited on the generation side. For instance, Barthes (1975a) showed an

example of plurality in the process of reception, reading, or interpretation. In his theory, which narrative fragments are used as the basic reading units for a reader and what meanings and symbols the reader interprets through the units are charged in the consciousness and strategies in the reader. In this theory, a narrative work is a stage where plural readings are performed and produce diverse texts according to readers' receptive and interpretive strategies of the different narrative units. In this sense, Barthes's theory invalidates the difference between generation and reception: reception corresponds to the surfacing of various elements in the potential possibilities that were suppressed through the generation process of a narrative. If narrative generation is a shrinkage process, narrative reception corresponds to a dilatation process. However, the narrative reception process is also a collection of determined interpretations, and it contains the shrinking characteristics. In any case, the plural narrative generation can be considered as having multiple potential narrative possibilities.

Narrative management, which was described in the first half of this chapter, limits the possibilities to produce an actual narrative. However, narrative management does not mean control based on a single strategy. It is also diverse, and narrative management is applied in a plural manner. In other words, the structure of a narrative is composed of various elements. It is represented by a physical medium (characters). On the other hand, it is also an ideal existence. Thus, the structure of a narrative has two characteristics. The activity of narrative generation can be diversely conducted at various points and with many narrative elements in the two aspects. In an actual narrative generation process, parts in a narrative structure are expanded using specific narrative techniques, however, so the process has a large degree of freedom, in principle.

Narrative generation is somewhat anarchical. However, it is a principle characteristic and a necessary and actual one. For example, Propp (1968) indicated that although the combinatorial possibilities of "functions" for the structures of folktales are very large, only a fraction of the possible combinations is really used to create each narrative. The author thinks that the actual aspects are various powers of narrative management that aim to constrain narrative possibilities according to a specific direction. On the other hand, the principle aspect corresponds to narrative technologies. There are many technologies that are not used because of their limited narrative management. However, offence and deviation can also exist. With living characters (animal or human), when a narrative structure that has never before existed is created, this may be considered a defect—a kind of malformation

or disease. However, from another angle, it may be regarded as a new species or a kind of evolution. Some kinds of narrative creativity are performed through focusing on the anarchical potentialities of narrative technologies by invalidating and changing the constraints of narrative management. The term “institution,” which the author frequently use, also indicates a practical characteristic of narrative generation: even if it is possible in principle, it does not really exist.

As clearly stated in the above discussion, the author grasped narrative plurality as a problem of generation mechanisms, in addition to the multiplicity of generated narratives. However, the generation mechanism can be considered to be a general and common model, and the author considers the problems of plurality using this model operationally. In particular, this model understands that narrative generation is executed by a general and common narrative generation mechanism and the poles and points for this generation can be placed in the levels and units of the narrative structure. A specific narrative structure is produced through the execution of plural structural operations, including focusing on entire levels, expanding local places, and invalidating special elements that do not have the power to directly execute a narrative at generation time.

The author presented a method of narrative generation through structural generation and transformation, and this was a formal framework that could treat and control plural levels and units related to narrative generation flexibly. This idea and the architectural framework were incorporated into the Integrated Narrative Generation System (INGGS). Ohsuga (2011) stated that the modeling of hierarchical divisions and the synthesis of an object are important keys to open up the complexity of intelligence; he added that the level of most micro-intelligence should be constructed through very simplified mechanical units. Minsky (1988) also presented the model of “mind societies”—that stated intelligence tasks are functionally performed through the collection of “agents” that each have one function and are units without intelligence and the hierarchical structure of agents. Although the author’s narrative generation systems do not necessarily overlap with the agent approach in AI, the method of narrative generation based on the flexible and hierarchical organization of the simplest pure technologies can be considered more deeply through the aforementioned narrative plural operation methods.

In particular, a narrative generation process can be the mechanism of creation and transformation of structures in several components of a narrative, which contains a variety of units and elements. The method that practices the structural generation and transformation is plurally constructed. The

techniques for structural generation and transformation include (in addition to narrative characters' intentional and goal-oriented behaviors, the narrators' macro-rhetorical strategies, story development based on the sequential rules of events like cause-and-effect, and continual relation) narrative development based on mutual relationships among objects and various figurative techniques in a narrative at the level in which the event progression of the story stops. Cutting a story means controlling the progression of a story from a different level, description, and explanation, as well as employing a variety of narration methods of events or narrative discourse.

Narrative plurality needs to be treated in its relationships with narrative generation and reception processes. In other words, a narrative structure and the levels and units are dynamically decided in accordance with the generation and reception processes and their mutual relationships instead of how they existed previously. However, the author does not intend to construct narrative generation systems in the psychological direction or the direction of cognitive science, at least in the narrow sense. The author's ultimate goal is the institutional construction of narrative generation. Cognitive science in the broad sense is an interdisciplinary or cross-disciplinary academic genre that explores the minds of humans, animals, lives, and machines based on computational methods and accepts diverse objects, thoughts, and methods based on the analyses of objects, whether psychological or experimental, and computer modeling and simulation. The author is relied on cognitive science in that sense. However, by "institutional construction of narrative generation," the author emphasizes the structures, forms, and "objects" that result from a narrative generation process relating to communal-illusions and social constructs. Even if the origin and cause may include a psychological trait, institutional narrative construction is a direction that emphasizes the objects themselves as created through the narrative generation process. For example, the author understands Propp's "binding and freedom" in folktales from the institutional viewpoint instead of a psychological one.

A plural narrative generation process does not necessarily progress to the end from start to finish according to the final narrative text's order. During the generation process, the narrative structure accepts operations at various points. When human writers construct narratives, they frequently present them in an order other than chronological. For instance, Yukio Mishima began to write a novel after he had already written the final sentences and scenes. Although the constructions of Aristotle's "first-middle-end" and Zeami's (1363-1443) "*jo-ha-kyū* (introduction-breaking-harrying)" and the "*ki-shō-ten-gō* (introduction-development-turn-conclusion)" of Chinese poems describe the

structure of novels overall, they do not refer to the order of narrative creation. Narrative receivers can read in various possibilities from the reading order. Regarding the institutional freedom of reception, *kabuki* has an interesting example called “*midori-jōen*.” Specifically, this means several fragmentary works performed on a *kabuki* stage. It is an example of the flexibility of narrative processing practiced through connecting of the sides of generation and reception. In narrative generation, even when a narrative structure exists in an orderly time, other potential, operational possibilities also exist. Moreover, the narrative structure is expanded by the operation to a point in each time. If we can describe all structural expansions by possible operation methods, we can describe a narrative space that contains all narrative structures at the same time. A rational model selects and executes a possible narrative route according to the strategy of narrative management. However, the real process gradually expands a narrative space instead of selecting only specific parts from all of possibilities. Narrative management in this case corresponds to the mechanism for concretizing a part of the space of potential possibility. However, the breadth of concretization in novels is relatively narrow. In gamebooks and adventure games, it is broader. The readers and users in the latter genres partially control the narrative management by selecting and constraining the possibilities. However, a story is finally realized in all narrative genres.

However, if we emphasize the problem of spatial structure, the discussion may be trivialized into thinking of plurality only as the possibilities of selection and refinement. Truly, they are not important, but the plural possibilities are always open. A possible thought experiment is the situation where many possible operations in a narrative structure are executed in parallel. This is different from game systems with many story lines. Although such game systems finally result in a story line through user interaction, the author is exploring story lines containing diverse narrative structures at the same time and in parallel—a narrative form in which the space of potential possibilities is simultaneously concretized. Such a form could execute several structural operations in parallel without the narrowing-down of narrative realization by narrative management, and many techniques of structural operations are processed and executed concurrently. The narrative management in this case is seen as the function for organizing narrative structures generated by a parallel mechanism in various ways rather than merely as the function of selection and refinement. The plural processing of potential spaces is expanded to plural processing for overt spaces.

Widening the range of discussion in our thoughts and actions, we ordinarily concretize a sequence of actions by selecting a route from many possibilities through deep logical thinking or by intuition or whim. However, the author's view indicates different possibilities. For instance, a rational image is like contrapuntal music, in which several musical elements are played in parallel and simultaneously, and an irrational one is similar to schizophrenia, in which several (and often opposing) mental images coexist without any controls. Is this image possible to realize as literature works or linguistic narratives instead of music? Compared to contrapuntal music where several sequences of sounds literally overlap simultaneously, counterpoint in literature or linguistic narratives is realized through represented concepts or meanings. However, different from music, the overlapping representation of the narrative as language is difficult because of semantic characteristics. Although the author has mentioned that narrative multiplicity is related to static phenomenon and that plurality is dynamic execution, the contrapuntal form may approach the static one. Although the artistic form of literature may enable a contrapuntal literary representation, such a literary style would likely interfere with our pleasure of reading.

The author has presented the theme of fluidity and fixation in narrative generation by generalizing the above problem. Simply speaking, in previous narratives, even if a writer's generation process was fluidity, the work once completed is provided to readers in a fixed form. In contrast, in the narratives created by a narrative generation system, the generation processes themselves are also focused, in addition to the completed works. Moreover, a narrative generation process does not finish; essentially, it continues to generate different works. Finally, the fluidity feature is emphasized in the narratives from narrative generation systems. On the other hand, the author considers the fixation of narratives as also important. Regarding this point, music provides good examples. For example, in a music production process, recording and editing a musical work is ordinarily done to deliver a musical work on various fixed media. Movie production also uses multiple film segments to create a fixed work. In music and movie production, fluidity and fixation are closely related in the production process. Regarding the production of literary narrative works using narrative generation systems, there are many interesting topics such as fluid generation using a system and the so-called paranoid fixation.

Directions for Incorporating Plural Mechanisms into a Narrative Generation System

The author considers the method for developing plurality in a narrative structure and the generation process as a concrete system mechanism. First, the author does not model a narrative generation process as one in which narrative units, generally events, are chained sequentially. In the author's narrative generation model, the author uses a hierarchical structure, a narrative tree, for representing a narrative, and all of the nodes can act as points to expand the structure. Operating the internal structure of an event is also possible through changing and deleting elements. Diverse narrative techniques can be used for expansion and change in a narrative structure. For example, there is a group of narrative or story techniques related to discourse relations or rhetorical structural relations, including "contrast," "parallel," "cause," and "concretization." "Goal-plan" is a concretization of the planning process for a character, and "scripts" are descriptions of characters' decided actions. Using hierarchical knowledge structures such as story schema makes it possible to incorporate multiply both the macro-structure of a story (the framework) and the micro-structure of a story (each character's micro-action sequences) into a narrative structure.

We can use more global story structures—for example, the folktale models of Propp and Greimas, in the hierarchical structure of a story. In Propp's model, functions are positioned in the higher level of a story's structure, and subfunctions, concrete events, and sentences develop a hierarchy. The model is constructed as a story tree. Unlike the story schema, the author uses a Propp-based story generation model for a more flexible framework. In particular, similar to story schema, we can use the model as a macro-story framework to extend a story tree using the subfunctions and events, as well as other story techniques. We can also use the model as a partial structure of a story tree to create—for instance, as a kind of a "frame story" in which a story is inserted into another story. Propp also discussed such complex narrative structures in his discussion regarding "turn." A turn by Propp means a unit in a story as the organization of "functions." A function is the most basic unit, a kind of abstract event, in Propp's theory. Although a story as a whole is constructed by combining several turns in various methods, the form of the frame narrative or nesting narrative is a type of the story as a whole. The following description considers various ways through which a group of functions, which are kinds of turns, is inserted into a story tree.

First, the functions are generally used in the position of a story tree that defines an entire story. If the entire story is detailed in the lower hierarchy using subfunctions and other techniques, the method is same as Propp's original method. However, a sequence of functions can be positioned in the lower point in a story tree. The story schema or story grammar by David Rumelhart (1942-2011) (1975) is generally placed as development by a character's micro-actions in lower-level events. This is an example in which the story schema (a micro-structure based on a character's concrete acts) is mixed with Propp's story structure (a macro-knowledge unit or a method for integrating literary and informational knowledge structures).

In contrast, the author shows a method in which a large story structure is inserted into a micro-action sequence. This pattern is seen in the following novels and stories: *Manon Lescaut* by Abbé Prévost (1697-1763) (1931), *Conversacion en la Catedral* by Vargas Llosa (1936) (2005), and *Rashōmon* by Akira Kurosawa (1910-1998) (1952). In these kinds of narratives, the entire story is constructed in the micro-framework and the full-fledged narrative development occurs in the inserted part. The first type and third type are in the same group in their structural form, and the second type and fourth type are in the same group. However, in the third type the story schema is used in the lower-level functions. Further, although the pairs of related functions exist inside a function sequence in Propp's model, the fifth type uses a pair relation in the macro-level that defines the entire structure of a story.

For example, consider that *Tsuru Nyōbō* (Crane Wife) and *Urashima Taro* in Japanese folktales are developed under the macro-structure based on the pair relation of "Interdiction/Violation." Although the idea of pairs of functions shows that the functional pairs in the collection have the same tendencies or guiding rules at the same time, many pairs have characteristics that can represent an entire story structure at the most macro-level. These can be understood as semantic units similar to theme, which is the summarized meaning of a narrative. Thus, as story techniques can be applied to all points of a story tree, the knowledge of story development to be applied to the higher level of a story tree, such as the above functions by Propp, is opened to diverse usage methods.

Various narrative knowledge to be used for operating story structures, including discourse relations, scripts, story schema, planning, and Propp's model, were originally theories and models that were created with unique thoughts and standards. Although constructing the mechanisms in which various characteristics of narrative units are flexibly incorporated into a story tree is not difficult, it is important to provide a methodological consistency

through a common narrative or story tree. The author's narrative generation system, especially INGS, is an integrated mechanism able to incorporate different types of narrative knowledge through flexible editing and organization.

In addition, we should focus on the comprehensive and organizational characteristics of Propp's model, which can be understood from the viewpoint of the comprehensive modeling of various units of a story. Although the highest hierarchy contains functions and the group forms the entire structures of stories, several selected functions can describe generalized story structures so that they can be used with other story techniques. For example, when Tōsu (1988) applied Propp's model to Japanese folktales, he used only some of the 31 functions, combining them in new ways and adding original functions to define the structures of Japanese folktales. The author developed a system model of Japanese folktales based on the more faithful method of Propp's model (Fujiwara, Ono, & Ogata, 2015). The attempts correspond to opening and generalizing Propp's functions within the limited scope of Russian folktales. However, Propp's method overall is equal to structuralism. In his study, the lower hierarchy of functions is nonhierarchically represented, and the description is very dense. Scripts, planning, and story schema are informational knowledge structures to be applied to the lower-level functions—namely the narrative scenic level. When the level is understood as a system of actions, we can design a consistent hierarchical system. However, both the system of actions and the system of editing, namely the system of discourse in the broad sense, exist equally; this is a difficult point from the perspective of narrative-related knowledge. The comprehensive model of events by Propp discussed above contains both sides of the hierarchy of actions and event editing. This is shown in the fact that the functions' sequence is not necessarily used only in the lower hierarchy but sometimes in the higher hierarchy. In particular, although the former is a usage that strongly shows the action-system's side, the latter is a usage that strongly shows the event-editing side.

The basic idea of incorporating various types of narrative knowledge or narrative techniques into a story tree has been used in INGS and will be stated in detail later. The following section deals with narrative strategies (Ogata, Hori, & Ohsuga, 1996) also introduced into INGS. Two concrete tasks for narrative strategies in the narrative generation system are choosing a node to apply a narrative technique—that is, the jumping-off application for later expansion or transformation—and deciding which narrative technique to apply to that node. The original form of each narrative strategy is a rule that has narrative parameters that define as the condition narrative characteristics to be generated and descriptions of possible growing points and narrative as the concluding part.

The narrative strategies in the first category are classified below:

- **Simple Formal Method:** This method transits the nodes formally in a narrative tree in a specific order.
- **Viewpoint Method:** This method selects a focus point to expand in a narrative tree.
- **Complex Strategic Method:** This method selects an adequate growing point in each generating cycle by referring to several narrative parameters and the present state of a narrative tree.

Narrative parameters are further classified in the following types:

- **Narrative Structure:** This includes the following parameters: *type, theme, genre, length, redundancy, narrativity, concreteness (abstractness), reality in narrative development, theatricality, complexity, thematic degree, repeated degree, detailed degree, and logicality.*
- **World Structure (Character):** This includes the following parameters: *reality, number, intentionality, and truth's degree (action's degree).*
- **World Structure (Space):** This includes the following parameters: *reality, spatial range, and area.*
- **World Structure (Time):** This includes the following parameters: *sequential degree (recall's degree), range, and age.*
- **Representation Method:** This includes the following parameters: *person, viewpoint, viewpoint transformation, and descriptive degree.*

Although these narrative parameters are the first tentative plan, it is possible to consider various directions. First, the objects controlled by narrative strategies are the decisions on the positions of growing points in a narrative tree and the narrative techniques to be applied to the points. We can see the method of deciding on a growing point from two perspectives: structural and nonstructural. The “structural perspective” means deciding growing points in relation to the narrative tree, and it includes upturned, downward, mixed, and collective ways. “Downward” is a method in which growing points are decided through the higher hierarchy and the lower hierarchy; “upturned” is the opposite way. Sometimes a narrative generation process contains both ways or a specific part in a narrative tree is focused on one or the other. In contrast, the “nonstructural perspective” means selecting a growing point based on the content elements in a narrative, such as characters, spaces, and

objects. This method can search for a specific element—for instance, events in which a character appears—and preferentially regard these events (or a partial structure that includes the events) as the growing point to create new narrative content. Focusing on the elements also connects to the techniques for intentionally increasing the effect, including exchanging elements in addition to the above operations. An example is to focus on the element of a space in a sequential event to exchange the space for another space; this can connect to the technique of de-familiarization or cutting a story. In particular, it intentionally or rhetorically sets a de-familiarized space that is not adequate for the character's action to increase the effect of reception. On the other hand, the strategy of deciding a narrative technique needs more abstract narrative parameters for the above classification of narrative techniques. The narrative parameters have range through abstract and concrete (that is, they should be classified as a hierarchical structure) and are directly associated with narrative techniques at the most concrete level.

Furthermore, especially regarding narrative strategies, there is the problem of controlled and uncontrolled narrative generation. Conducting narrative generation based only on subdivided narrative parameters makes final predictions of results difficult because the control relies on mutual relationships of rules described inside the system. The author calls this “uncontrolled narrative generation.” In contrast, “controlled narrative generation” can predict the final narrative form based on the strategic decision of the generation route according to a procedure. However, uncontrolled narrative generation is a problem of pattern processing. Therefore, if we can reconstruct it as a method through which organizational investigation and evaluation of pairs, several, or many narrative parameters is the input and narrative structures are the output, the narrative can acquire the consistency of the input and output relation by adjusting the description of rules inside the system. It is then similar to controlled narrative generation. This may be similar to stochastic or statistical methods such as neural networks and genetic algorithms. However, if such methods need to postulate the correct answers of narrative structures generated from a set of narrative parameters, it is an essential difficulty that relies on sense comprehension such as narrative generation.

Furthermore, the author would like to consider the problem of the strategy in the level connected to actual production acts—in particular, the techniques likened to counterpoint in music. This is the problem of how to unify both the fluid narrative generation activities and the contrasting fixed methods in a mechanism that connects the production or narrative works. This unification is done by editing or synthesis, and the author divides this into “semantic

editing and synthesis” and “nonsemantic editing and synthesis.” The former is editing or synthesis of the concepts (according to the semantic content of a narrative) based on the information described in the events and the relational structures. In contrast, nonsemantic editing or synthesis is editing and synthesis according to formal narrative information. In other words, the aspect of concepts is excluded. Phonic and iconographic characteristics are treated in the nonsemantic methods. The following description shows several arbitrary possibilities.

Simply or directly thinking, nonsemantic editing and synthesis includes various experimental and artistic methods such as the overlapped reading aloud of several narrative works by people, the simultaneous projection of several works on the same screen, or the simultaneous projection of many screens on the same space. Although these are the simple, primitive images, these possibilities become a starting point for consideration. The next step is to compound several narratives in parallel. In these complicated processes, if the focused point is moved for semantic consistency, the processing approaches semantic editing and synthesis. As the connection among small units moves to the connection among bigger units, the narrative semantic strength increases, though it is a different problem whether the narrative strength itself increases. The processing units include events, scenes, larger episodes, and characters.

For example, as a thought experiment, we can re-edit a narrative by decomposing a generated narrative in an event’s unit and re-connecting them in a way different from the original narrative. This may not hold the meaning of the original narrative. The editing units can be changed to scenes and larger episodic units. If the editing units are larger, the possibility retaining the meaning of the original narrative increases. In contrast, if we arrange episodes, scenes, and events abstracted from generated narratives, we may get an entirely new structures of a narrative. If the entire narrative structure is prepared based on the automatically generated narratives, the semantic strength may increase. Moreover, if we consider that narrative characters and spaces are important elements related to an entire narrative, there are methods for editing and synthesizing generated narratives centering on a specific character or a space. This is related to the concepts of narrative fluidity and fixation. This is also an essential and important consideration that is connected to the area of the production or creation of literary narrative works using a narrative generation system. For the author, a narrative work is a fixation with fluidity of the narrative generation system, and the above considerations are linked to the next step.

Plurality of Narrative Functions or Effects

In narrative generation systems, despite its clear indication as a strategy or its finally emerging, the concept of function is a serious consideration. What are narrative functions? The author considers that narrative concepts are any influences or effects on the outer worlds. Although this may be related to narrative reception processes, a narrative function does not simply mean the content that receivers read and feel but also what they associate with anything outside the narrative. In particular, a narrative function is a concept that associates the inside of a narrative with the outside of a narrative. How are the inside and outside defined? In a novel, when a written text is inside, is the title of the novel inside or outside? Although there are border areas, the author understands the sentences in the body of a novel. When readers read narrative texts, their associations with the semantic outside also occurs—for example, the idea that the main place is a real city.

Although such occurrences of semantic interpretation are also related to a narrative function, the following description excludes such examples. If the semantic content or formal content interpreted by receivers from narrative representations such as text results in changes in the various states of the receivers, the power driving that state change is narrative function. If readers are moved emotionally by reading a novel, the novel has the function of changing the reader's state of mind. In addition, whether the writer of a novel intends to move readers' minds or has emotional strategies is not directly related to the novel's function. Narrative functions are associated with social and collective levels in addition to personal levels.

Narrative functions include the following types:

- **Aesthetic Function**
- **Religious Function**
- **Political Function**
- **Demagogic Function**
- **Brain washing Function**
- **Persuasive Function**
- **Institutional Function**
- **Normative Function**
- **Educational Function**
- **Mental Function**

Regarding the “aesthetic function,” the catharsis by Aristotle is famous. It may be a main function in artistic narratives (in the classic meaning). As seen in the Buddhist Scriptures and the Christian Bible, there is also a function that gives a religious mindset to receivers. Of course, this “religious function” sometimes accompanies the aesthetic function. As, in the above function classification, originally complicated and integrated things are divided into several categories that appear in parallel in real narrative functions. A kind of narrative type has the functions that lead receivers to an ideology, political party, religious group, or behavior, namely “political function” and “demagogic function.” The “brainwashing function” implants thoughts and belief concepts to receivers and the “persuasive function” convinces receivers of the value of an object. For example, the main objective of advertisement narratives is to execute that persuasive function, so the effective rhetoric regarding a product or brand must be formed to achieve the objective. There are also functions that provide and encourage a normative lifestyle, namely “normative function” and “institutional function,” and a function to teach various knowledge and concepts, namely “educational function.” Although AI and cognitive science indicate the roles that routine storylike information and sequences, events, and scripts in daily scenes play in our understanding of events, these are based on the thought that model narratives dependent on the normative function of narrative. This can be discussed in the relationship with the theme of learning. In particular, the narratology of AI and cognitive science is the consideration of the narrative forms created through the abstraction and synthesis of the common parts in repeated occurring events. Such a learning process shows the internal mechanisms that the normative and institutional functions are realized in the receivers. The narrative functions can be comprehended in the spectrum from the functions of aesthetic characteristics to the functions of pragmatic characteristics such as persuasive function. The final type, “mental function,” holds or shapes the mental or psychological consistency in receivers based on narratives and is used to positive effect in clinical psychology and narrative therapy.

The author would like to consider the systematization of narrative functions and effects intending to conduct the narrative generation systems from a certain viewpoint. The author does not adopt the method that hierarchically categorizes functions according to their value. The consideration of narrative functions and effects by cognitive science tends to embrace the idea that recognizes literature and arts as things created by a supreme cognition. Such nonplural thoughts seem to be a precondition of the systematic consideration of narrative functions and effects. For example, Akifumi Tokosumi (1953-2013) (2007), who was a cognitive scientist and treated the challenges of narrative

understanding and interpretation using the method of emotional goal-plan reasoning, insisted that the effectiveness of the semiotic method for aesthetic objects like literature and narrative is dependent on the recognition of the limitations of the semiotic approach in cognitive science and AI. However, an essential problem with his cognitive thought was the point that he strongly considered aesthetic objects like literature to be extreme cognitive phenomena. This tends to connect the feeling and thought that places the aesthetic function above all else in narrative functions. This kind of consideration based on the order of valuations as the systematic categorization of narrative functions and effects refute the perspective of plural narrative generation. From the viewpoint of operation, we will be able to create a model in which the parameters representing the narrative functions are associated with various narrative techniques and strategies, such as the functional model of communication by Roman Jakobson in the area of linguistics.

The author would like to systematize narrative functions and effects based on the concept of “institution.” When we try to discuss narrative functions and effects related to the reception, this connects to psychological methods. Applying psychological methods to narratives and literature has naïve implications, such as the tendency to centralize feeling subjects and statistical phenomenon. In psychological papers, the principle of the majority decision exercises their influence. In contrast, the thoughts and actions of writers and artists are recognized as supremely magnificent and rare things. This may be based on the blind feeling that narratives and literature originate from personal creativity. The existence of creative subjects is positively recognized in this case. Finally, in the above context, narrative function effects are brought to receivers through various feelings. Similarly, the senders of narratives are also left with various feelings. To focus on the mechanism of the phenomenon that a function is occurring, we need to articulate it as an independent concept. The author calls the articulated concept “institution.” Institution here means a patterned rhetorical substance that results in an effect. Of course, specific institutions do not exist universally. At the same time, if many institutions exist for each receiver, that is a contradiction. We may be able to describe the plurality of narrative function as a kind of struggle in which institution grasps the hegemony in a narrative generation and reception process.

Plurality of Media and Genres

In conclusion, although narrative is a concept that transcends media, the representation of each concrete work requires the use of a specific medium. Narrative media are diverse and multiply hierarchical, and their use is sometimes associated with the difference among genres. This section considers narrative media and genre in the close relationship.

The media for narratives are multilayered. A specific narrative text can simultaneously contain several media levels. First, the mode, including language, sound, and image, is called the “first-order media” in the sense of basic media, and this level corresponds to the media for direct narrative representation. In detail, language includes spoken language and written language, and sound has voice, tone, music, and other characteristics that are sometimes called sound effects. Moreover, image includes still pictures and moving pictures. Spoken language falls into two areas, language and sound. Additionally, as possibilities, narrative modes can include the olfactory sense and sense of touch, even though they may not be actually present. However, at one time, the smell of a book and the pleasant feel of the paper were essential to the experience of reading. On the layer of these first-order media, there is the layer of tool-like media, including books and magazines, photographic arrangements, motion picture equipment, televisions, and computers. These can be called “representation media” or “second-order media.” Further, places such as theaters and movie halls are spaces where the distribution and representation for narrative receivers are “distribution media” or “third-order media.” Media can also synthetically conduct narrative production, distribution, and delivery, such as television stations, movie companies, advertisement agencies, newspaper companies, and publishers. This type of media comprises entire mechanisms as organizational groups and conducts narrative generation far beyond simple tools and positions such as places and stages. This is the level at which the narrator as an individual is multiply extended.

On the other hand, although narrative genres are used pragmatically or as indexes of classification by libraries and bookstores, one of the important distinguishing factor is the social function that a narrative plays. For instance, advertisement is recognized as a narrative genre by its objective of persuading people of the appeal of products and brands, and this is the social cognition of such an objective. At the same time, medium is also one of the factors for defining narrative genres. For example, the narrative of *manga* (comic) is a genre constructed through both written text and still pictures in a printed

book. Of course, purely speaking, novels constructed with characters and pictures also exist. Therefore, although media partially decides narrative genres, the actual categorization of genres is done based on other internal elements, including narrative construction methods and technical or rhetorical characteristics. Moreover, there are also comprehensive narrative genres that use diverse media such as advertisements. These are divided into the subgenres such as print advertising, television advertising, and Internet advertising. However, we cannot deny that the use of media after the second-order media is closely connected to distinguishing among narrative genres. We need to associate the hierarchy of media with narrative genres. For example, although advertisement as a genre transcends the division of media, it is differentiated from the other genres by its organizational media, such as advertisement agencies and the advertisement departments in companies. Further, novels and poems are different narrative genres distinguished by their internal styles and social institutional elements rather than by the difference of their media.

The phenomena of diverse and multilayered characteristics of media and the diversity of genres in narratives results in the diversity of phenomena. In particular, people can select or create various media and genres for narrative production and reception according to their social and cultural preferences. Various combinations of media and genres have enabled us to realize the plurality of narrative generation. “Media mix” means transforming or exchanging genres through developing a work represented by one medium using another medium (after the second-order medium) and, for instance, changing a narrative genre (e.g., a novel with words, pictures, and a physical book) into another genre (e.g., a movie recreating that book). If the powers of provision and restriction by a specific medium decrease, the possibilities of operation by media and genres increase. Computers are machines that can transcend the limitation of first-order media and a starting point of thought and technology for releasing narratives from the limitation of media and genres, namely, the contents.

Through the possibility of withdrawal of contents from media, medium and genre can be parameters for controlling narrative generation. However, if a genre’s narrative can be constructed through experimental combinations of various media rather than narrative generation based on a specific medium and genre, narrative media and genres are also the objective of narrative generation beyond the parameters for narrative generation control and management. Come to think of it, a style of narrative generation that consciously incorporates this kind of incompact feeling is similar to the idea that considered novels as impurities. However, we should not to forget the existence of the mighty

power of restraint in the device of computer. Although computers have the power to remove and disable various rules and restraints, they are only machines—and a medium. Therefore, a situation where this medium leads us to the direction of new organizations is already explicit.

Although Ogata and Kanai (2010) discussed the plurality of research methods, and in the next part this topic is overlapped with descriptions in various parts in this book as core contents of expanded literary theory and post-narratology, the author has not discussed it here. This section discussed the basic concept of plurality from several perspectives, and the discussion will be realized and concretized as the ability of plural narrative generation. The concept of narrative is generally thought of as the mechanism that regulates fragmentary events and various narratives related to “I,” “culture,” etc. Narratives are repainted on other narratives and a multilayered world covered striated with narratives subconsciously constructed. Narrative generation systems do not accept worlds as subconscious states covered with narratives but as worlds created for us and constructed from our lives and deaths. Hence, we should aim at conscious narrative technologies through narrative management and, moreover, upgrade the technologies for diverse, multiple, and plural usage. Plural narrative construction is not merely creating a narrative from the standpoint that objectively observes the state itself of diverse technologies, methods, and texts that exist in parallel but is always executed in the vortex of a situation. In particular, from the viewpoint of “I,” “this” part in a narrative is important and “that” narrative is just extended and elaborated upon. At the same time, “I”—the receiver who focuses on one narratives more than another—also exist. Narratives that deny the existence of all these “I” perspectives also exist. Thus, in narratives, vague nullification and focusing on particular things always exist simultaneously.

CONCLUSION

For the author, an extreme goal is not the construction of thought and the philosophy of narrative. The technological implementation of the social development of narrative generation systems is the most important purpose for the author. However, the philosophical consideration is essential for the final goal. After surveying related topics regarding narrative philosophies and philosophical narrative studies in **BACKGROUND**, this chapter showed various previous examples regarding narrative-related philosophies and thoughts.

Next, the author introduced the two most basic and closely related philosophical ideas for narrative generation: the “multiple narrative structures model” and “expanded literary theory.” Next, sections under **A THEORETICAL FRAMEWORK FOR THE SYNTHETIC COMPREHENSION OF NARRATIVE GENERATION: MULTIPLE NARRATIVE STRUCTURES MODEL AND EXPANDED LITERARY THEORY** explained them in detail and concretely. Another viewpoint on the expanded literary theory was also discussed in the section of **Expanded Literary Theory Seen from Another Perspective: Technology and Management in Narrative Generation**. This section is an attempt that narrates narrative phenomena using terms and concepts in other academic fields, i.e. engineering and management.

CONCEPTS FOR DYNAMIC NARRATIVE GENERATION PROCESSES discussed the dynamic features in a narrative generation process through the three philosophical concepts of “circular narrative control,” “normative and deviation,” and “fluidity and fixation.” Circular narrative control meant the circular continuation of narrative generation through various types of information. Fluidity-fixation and normative-deviation meant the change of weighting in the continuous circulation. The author intended to consider the dynamics of actual narrative generation flow by their combination. Furthermore, the author discussed plural strategies in narrative generation, as the last philosophical idea presented here to support the author’s narrative generation study. The plurality in narrative generation is an aspect of multiple narrative structures and it indicates flexible and diverse narrative generation processing based on “plural execution points.” This idea will be described in the next book (Ogata, in press).

ACKNOWLEDGMENT

This chapter’s research was supported by JSPS KAKENHI Grant Number18K18509, Kayamori Foundation of Information Science Advancement Research Grant, The Telecommunication Advancement Foundation Research Grant, and AOI TYO Holdings Inc.

REFERENCES

Abbé Prévost. (1931). *Manon lescaut* (H. Waddell, Trans.). New York: E.P. Dutton. (Original work published 1731)

Akimoto, T., & Ogata, T. (2015). Evaluation of a narrative discourse generation system based on the concept of “norm and deviation”. *Journal of Robotics. Networking and Artificial Life*, 2(1), 50–53. doi:10.2991/jrnal.2015.2.1.12

Akimoto, T., Ono, J., & Ogata, T. (2012). Narrative Forest: An automatic narrative generation system with a visual narrative operation mechanism. In *Proceedings of the 6th International Conference on Soft Computing and Intelligent Systems & the 13th International Symposium on Advanced Intelligent Systems* (pp. 2164-2167). Tokyo, Japan: Japan Society of Fuzzy Theory and Intelligent Informatics. 10.1109/SCIS-ISIS.2012.6505319

Aoki, S. (2017a). Learning difficulty and story generation. *Proceedings of the 34th Annual Meeting of the Japanese Cognitive Science Society*, OS18-8I.

Aoki, S. (2017b). Learning difficulty and story generation: From the viewpoint of psychiatry. In *Proceedings of the 56th Special Interest Group on Language Sense Processing Engineering*, (pp. 53-57). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Aoyagi, E. (2009). *Derrida de yomu “Senya ichiya”*: *Bungaku to hanreisei* [Reading “Aranbian Night” by Derrida]. Tokyo, Japan: Shin’yōsya.

Arai, K. (1998). Gaming simulation toha nanika? [What’s gaming simulation?]. In K. Arai, H. Deguchi, T. Kaneda, F. Kato, & M. Nakamura (Eds.), *Gaming simulation* (pp. 1-43). Tokyo, Japan: Nikka-Giren Shuppansha.

Aristotle. (1959). *Ars rhetorica* (W. D. Ross, Ed.). Oxford, UK: Oxford University Press.

Aristotle. (1997). *Poetics* (M. Heath, Trans.). London, UK: Penguin Classics.

Bakhtin, M. (1984). *Problems of Dostoevsky’s poetics* (C. Emerson, Trans.). University of Minnesota Press. (Original work published 1963) doi:10.5749/j.ctt22727z1

Barthes, R. (1975a). *S/Z: An essay* (R. Miller, Trans.). New York: Hill and Wang. (Original work published 1970)

Barthes, R., & Duisit, L. (1975b). An introduction to the structural analysis of narrative (L. Duisit, Trans.). *New Literary History*, 6(2), 237–272. doi:10.2307/468419

Bataille, G. (1957). *La littérature et le mal*. Paris: Gallimard.

Booth, W. C. (1983). *The rhetoric of fiction*. Chicago, IL: University of Chicago Press. doi:10.7208/chicago/9780226065595.001.0001

Boyd, B. (2009). *On the origin of stories: Evolution, cognition, and fiction*. Harvard University Press. doi:10.2307/j.ctvjf9xvk

Breton, A. (1969). *Manifestoes of surrealism*. Ann Arbor, MI: University of Michigan Press. (Original work published 1924) doi:10.3998/mpub.7558

Campbell, J. (1949). *The hero with a thousand faces*. New York: Pantheon Books.

Danto, A. C. (1965). *Analytical philosophy of history*. London, UK: Cambridge University Press.

Dr. Seuss. (1954). *Horton hears a who!* New York: Random House Books for Young Readers.

Fujiwara, A., Ono, J., & Ogata, T. (2015). Propp ni motozuku story contents grammar wo riyō shita chisiki tōroku/kakunō tool ni motozuku kōsatu [Consideration based on knowledge storing using the story content grammar based on Propp]. In *Proceedings of the 48th Special Interest Group on Language Sense Processing Engineering* (pp. 57-66). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Genette, G. (1972). *Discours du récit, Essai de méthode, Figures III*. Paris: Seuil.

Genji Monogatari. (1993). In *Shin nihon koten bungaku taikai, 19* [New Japanese classic literature collection, 19]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1994). In *Shin nihon koten bungaku taikai, 20* [New Japanese classic literature collection, 20]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1995). In *Shin nihon koten bungaku taikai, 21* [New Japanese classic literature collection, 21]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1996). In *Shin nihon koten bungaku taikai*, 22 [New Japanese classic literature collection, 22]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Genji Monogatari. (1997). In *Shin nihon koten bungaku taikai*, 23 [New Japanese classic literature collection, 23]. Tokyo, Japan: Iwanami Shoten. (Original work published early 11th century, the Heian era)

Greimas, A. J. (1966). *Sémantique structurale: Recherché de method*. Paris: Larousse.

Homer. (2017). *Odysseia* (E. Wilson, Trans.). New York: W. W. Norton & Company. doi:10.1515/9783110420234

Hori, K. (2007). *Sōzō katsudō shien system no riron to ōyō* [Theories and applications of creative activity aid]. Tokyo, Japan: Ohmsha.

Jauss, H. R. (1970). *Literaturgeschichte als provokation*. Frankfurt am Main, Germany: Suhrkamp Verlag.

Joyce, J. (1922). *Ulysses*. Paris: Sylvia Beach.

Joyce, J. (1939). *Finnegans wake*. London, UK: Faber and Faber.

Kagerō Nikki. (1989). [Kagerō Diary]. In *Shin nihon koten bungaku taikai*, 24 [New collection of Japanese classic literature, 24] (pp. 35–249). Tokyo, Japan: Iwanami Shoten.

Kanai, A., Ogata, T., & Shinohara, K. (2002). Film rhetoric generation system for intensive cognitive system. In *Proceedings of IEEE International Conference on Systems, Man and Cybernetics (CD-ROM)*. New York: The Institute of Electrical and Electronics Engineers.

Kawada, J. (1992). *Kōtō densyō ron* [Theory of oral tradition]. Tokyo, Japan: Kawade Shobō Shinsha.

Kawai, H. (1994). *Monogatari wo monogataru* [Narrating narratives]. Tokyo, Japan: Shōgakukan.

Kinoshita, T. (1994). Gendai no uwasa kara kōtō densyō no hassei mechanism wo saguru—McDonald's Hamburger no uwasa to kuchisake on'na no uwasa. In T. Kinoshita & T. Yoshida (Eds.), *Kigō to jōhō no kōdōkagaku* (pp. 45–97). Tokyo, Japan: Fukumura Shuppan.

Komatsu, S. (1991). Simulation to fiction ni tsuite [On simulation and fiction]. *Studies in Simulation and Gaming*, 2(1), 7–10.

Kristeva, J. (1980). *Desire in language: A semiotic approach to literature and art*. New York: Columbia University Press. (Original work published 1969)

Kurosawa, A. (Director), & Ito, M. (Producer) (1950). *Rashōmon* (Motion picture). Japan: Tōhō.

Kuwano, T. (1988). Russian formalism. In T. Kuwano & M. Ōishi (Eds.), *Formalism—Shiteki gengo ron* [Formalism: Theories of poetic linguistics]. Tokyo, Japan: Kokushokankōkai.

Lévi-Strauss, C. (1964). *Mythologiques 1: Le cru et le cuit*. Paris: PLON.

Llosa, M. V. (2005). *Conversation in the cathedral*. New York: Harper Perennial. (Original work published 1969)

Lyotard, J-F. (1979). *La condition post moderne*. Paris: Les edition de Minuit.

Meister, J. C. (2003). *Computing action: A narratological approach*. Walter de Gruyter.

Minsky, M. (1975). A framework for representing knowledge. In P. H. Winston (Ed.), *The psychology of computer vision*. New York: McGraw-Hill.

Minsky, M. (1988). *The society of mind*. New York: Simon & Schuster.

Mishima, Y. (2001). Gogo no eikō. In *Ketteiban Mishima Yukio zenshū*, 9 [Complete collection Mishima Yukio, Vol. 9] (pp. 223-385). Tokyo, Japan: Shinchōsha. (Original work published 1963)

Mishima, Y. (2001). Kinkakuji [The temple of the golden pavilion]. In *Ketteiban Mishima Yukio zenshū*, 6 [Complete collection Mishima Yukio, Vol. 6] (pp. 7-274). Tokyo, Japan: Shinchōsha. (Original work published 1956)

Mizoguchi, K. (Director), & Nagata, M. (Producer). (1954). *Chikamatsu monogatari* [The crucified lovers] (Motion picture). Japan: Daiei.

Nagai, H. (2016). *Sonzai to jikan—Tetsugaku tankyū*, 1 [Existence and time: Exploring philosophy, 1]. Tokyo, Japan: Bungei Shunjū.

Nishigaki, T. (2018). *AI genron—Kami no shihai to ningen no jiyū* [Principles of AI]. Tokyo, Japan: Kōdansha.

Noe, K. (1996). *Monogatari no tetsugaku—Yanagita Kunio to rekishi no hakken* [The philosophy of narrative: Yanagita Kunio and the invention of a history]. Tokyo, Japan: Iwanami Shoten.

Noe, K. (2007). *Rekishi wo tetsugaku suru* [Philosophy of history]. Tokyo, Japan: Iwanami Shoten.

Noya, S. (1999). *Tetsugaku, kōkai-nisshi* [Philosophy, ship's log]. Tokyo, Japan: Shunjūsha.

Ōe, K. (1979). *Dōjidai game* [The game of contemporaneity]. Tokyo, Japan: Shinchōsha.

Ogata, T. (1995). *Monogatari seisei—Monogatari no tame no gihō to senryaku ni motozuku approach* [Narrative generation: An approach based on the techniques and strategies for narratives] (Doctoral dissertation). The University of Tokyo, Tokyo, Japan.

Ogata, T. (2016). Computational and cognitive approaches to narratology from the perspective of narrative generation. In T. Ogata & T. Akimoto (Eds.), *Computational and cognitive approaches to narratology* (pp. 1–73). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0432-0.ch001

Ogata, T. (2018). An integrated approach to narrative generation: From Mishima and kabuki to narrative generation systems. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 49–147). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch002

Ogata, T. (in press). *Internal and external narrative generation based on post-narratology: Emerging research and opportunities*. Hershey, PA: IGI Global.

Ogata, T., Hori, K., & Ohsuga, S. (1996). A basic framework for narrative conceptual structure generation based on narrative techniques and strategies. *Jinkō Chinō Gakkaishi*, 11(1), 148–159.

Ogata, T., & Kanai, A. (2010). *Monogatariiron no jōhōgaku josetsu—Monogatari seisei no shisō to gijutsu wo megutte* [An introduction to informatics of narratology: Around the thoughts and technologies of narrative generation]. Tokyo, Japan: Gakubunsha.

Ohsuga, S. (2011). *Gengo to chinō—Gengo ha donoyōni shite tsukuraretaka?* [Language and intelligence]. Tokyo, Japan: Ohmsha.

- Ono, J. (2018). *Gap to odoroki ni motozuku monogatari jidō seisei game no kenkyū—Table-talk role playing game to tōgō monogatari seisei system wo riyōsita approach* [A study on an automatic narrative generation game based on gaps and surprise: An approach using table-talk role playing games and an integrated narrative generation system] (Doctoral dissertation). Department of Software Informatics, Iwate Prefectural University, Takizawa, Iwate, Japan.
- Ono, J., & Ogata, T. (2018). Surprise-based narrative generation in an automatic narrative generation game. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 162–185). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch004
- Ōtsuka. (2013). *Story maker—Sōsaku no tame no monogatariiron* [Story maker: Narratology for creation]. Tokyo, Japan: Seikaisha.
- Plato. (1892). Republic (B. Jowett, Trans.). In *The dialogues of Plato* (Vol. 3). Oxford, UK: The Clarendon Press. Retrieved from Libertyfund.org: https://oll.libertyfund.org/titles/plato-dialogues-vol-3-republic-timaeus-critias#lf0131-03_head_001
- Prince, G. (1982). *Narratology*. Walter de Gruyter. doi:10.1515/9783110838626
- Prince, G. (2003). *A dictionary of narratology* (Revised ed). University of Nebraska Press.
- Propp, V. Y. (1968). *Morphology of the folktale* (L. Scott, Trans.). Austin, TX: University of Texas Press. (Original work published 1928)
- Proust, M. (2003). *In search of lost time* (T. Kilmartin, Trans.). New York: Modern Library. (Original work published 1913-1927)
- Ricoeur, P. (1990). *Time and narrative* (Vol. 1-3; K. McLaughlin & D. Pellauer, Trans.). University of Chicago Press. (Original work published 1983)
- Rumelhart, D. E. (1975). Notes on a schema for stories. In D. G. Bobrow & A. Collins (Eds.), *Representation and understanding: Studies in cognitive science*. Academic Press. doi:10.1016/B978-0-12-108550-6.50013-6
- Ryan, M. L. (1991). *Possible worlds, artificial intelligence, and narrative theory*. Indiana University Press.

Saito, Y., & Ogata, T. (1998). On the computational modeling of Freud's dream theory. In *Proceedings of the 12th Annual Conference of the Japanese Society for Artificial Intelligence* (pp. 706-706). Tokyo, Japan: The Japanese Society for Artificial Intelligence.

Saussure, F. (1959). *Course in general linguistics* (W. Baskin, Trans.). New York: McGraw-Hill Book Company. (Original work published 1916)

Shimizu, M. (1994). *Text/katari/plot—Chekhov no tanpen shōsetsu no sigaku* [Text, narration, and plot]. Tokyo, Japan: Hitsuji Shobō.

Shklovsky, V. (1990). *Theory of prose* (B. Sher, Trans.). Dalkey Archive Press. (Original work published 1925)

The Arabian Nights Entertainments. (1853). (E.W. Lane, Trans.). London: J. Murray. Retrieved from <https://archive.org/details/arabiannightsen01lanegoo/page/n7>

Tokosumi, A. (2007). *Kokoro no keisan riron, Kaitei-ban* [Computational theories of mind, Revised edition]. Tokyo, Japan: Tokyo Daigaku Shuppankai.

Tōsu, N. (1988). *Bunka no gengogaku* [Linguistics of cultures]. Tokyo, Japan: Keisō Shobō.

Tsuchida, T., Aoyagi, E., & Ito, N. (1996). *Gendai bungaku riron—Text, yomi, sekai* [Contemporary literary theories: Texts, readings, and worlds]. Tokyo, Japan: Shin'yōsya.

Tynyanov, Y. (1997). *Formalist theory* (L. M. O'Toole & A. Shukman, Trans.). Oxford, UK: Oxford Publishing.

Watanabe, K. (1996). *Lévi-Strauss: Kōzō* [Lévi-Strauss: Structure]. Tokyo, Japan: Kōdansha.

Watanabe, N. (2012). *Nihon shōsetsu gijutsushi* [A history of technologies of Japanese novels]. Tokyo, Japan: Shinchōsha.

White, H. (1973). *Metahistory: The historical imagination in nineteenth-century Europe*. Johns Hopkins University Press.

Yamato, T. (1974). *Bungaku gijutsuron* [Literary technologies theory]. Tokyo, Japan: Kenkyūsha.

Yanagita, K. (2016). *Tōno monogatari* [Tōno story]. Tokyo, Japan: Shinchōsha. (Original work published 1910)

Yokouchi, K. (2003). *Kōkoku to jōhō* [Advertisement and information]. Tokyo, Japan: Sōseisha.

Yoshimoto, T. (1965). *Gengo ni totte bi toha nanika* [What is beauty for language?]. Tokyo, Japan: Keisō Shobō.

Yoshimoto, T. (1968). *Kyōdō gensō ron* [On communal-illusion]. Tokyo, Japan: Kawade Shobō Shinsha.

Zaltman, G. (2003). *How customers think*. Harvard Business School Press.

Zhang, Y., Ono, J., & Ogata, T. (2011). An advertising rhetorical mechanism for single event combined with conceptual dictionary in narrative generation system. In *Proceedings of the 7th International Conference on Natural Language Processing and Knowledge Engineering* (pp. 340-343). New York: The Institute of Electrical and Electronics Engineers. 10.1109/NLPKE.2011.6138221

Zhang, Y., Ono, J., & Ogata, T. (2012). Single event and scenario generation based on advertising rhetorical techniques using the conceptual dictionary in narrative generation system. In *Proceedings of the 4th IEEE International Conference on Digital Game and Intelligent Toy Enhanced Learning* (pp. 162-164). New York: The Institute of Electrical and Electronics Engineers. 10.1109/DIGITEL.2012.46

Conclusion

This chapter is the final part of this book. It comprehensively summarizes the contents and results and shows future directions and visions. In this book, the author mainly treats the basic thoughts and concepts, including philosophical concepts, for “an integrated approach to narrative generation.” In the sequel of this book, the author will mainly show the analytical and technological approaches to the author’s narrative generation study. In particular, simply speaking, in more artistic and literary meanings, the most important future topic is how to actually create narrative works. Thus, the author’s narrative generation study will gradually move in the direction of the practice of narrative generation. In this book, narratives did not necessarily include only literary or artistic narratives but covered more *geinō*-like and folktale-like narratives. However, in the future, the creation of an interesting narrative in very broad sense will be a goal of narrative generation studies. Furthermore, problems and themes of literary and artistic quality will emerge as an important topic at this stage.

Overview, this introduction chapter shows the themes in the entire book in **MAIN TOPICS IN THE BOOK** and comprehensively summarizes the contents and results in **A SUMMARY IN THE BOOK: AN INTEGRATED STUDY OF NARRATIVE GENERATION**. Moreover, this chapter shows future directions and visions in the section of **FUTURE RESEARCH DIRECTIONS IN THE BOOK: FROM THEORIES AND TECHNOLOGIES TO NARRATIVE CREATIONS**.

MAIN TOPICS IN THE BOOK

This book treated to the following topics through previous five chapters:

- (1) **Basic Standpoints: A Unified Consideration of Narrative Phenomena:** Scientific methods and narratological methods are two representative methods that articulate and order changeable worlds and societies and

Conclusion

give them operational frameworks. Scientific methods are based on the analytical method that mainly anatomizes a world or object into the elements. In contrast, the narratological methods show a synthesized direction that comprehends the world or object as an organic synthesis of diverse elements. These take contrasting positions. The narratological method is a way or a set of ways that all human societies innately possess but that typically show unique characteristics of human brain and thought. This study pursued the narratological principle as a representation of the human brain's mechanism to extend results in various directions. Therefore, the narratives considered in this book covered broad cultural areas beyond the literary and artistic ranges to the areas of medicines related to the brain and psychology.

- (2) **The Philosophy and Thought of Narrative or Narrative Generation:** The author presented several philosophical foundations that give direction for the development, application, and distribution of one or more narrative generation systems based on the above basic consideration. These included post-narratology (or expanded literary theory, informational narratology, informatics of narratology, etc.), the multiple narrative structures model, narrative generation's circular control, narrative generation through norms and deviation, and narrative generation of fluidity and fixation. These indicated higher-level or meta-level strategic mechanisms in a broad range, including the architecture of narrative generation systems, output information, and design and development processes. These always function with the execution processes of each narrative generation system, even if they are not explicitly described.

Furthermore, the next topics will be treated in the sequel (Ogata, in press):

- (3) **The Consideration of Narrative Generation Mechanisms Through Narrative Analyses**
- (4) **A Fundamental Narrative Generation System**
- (5) **Applications and the Social Development and Distribution of Narrative Generation**
- (6) **The Production of Literary and Artistic Works or Literary and Artistic Organizations**

In particular, in this book, **Introduction** showed the significance and importance to humans and societies of narratives. The author also addressed in relationship to the contexts of the author's personal story and narrative.

Chapter 1, **What are Narrative Generation Phenomena?**, introduced an idea that deals with narrative phenomena as the integration between the individual (narrative generation and reception system) and social levels (narrative production and consumption system). Moreover, this chapter described the future image of a human-machine symbiosis system that includes narrators and receivers as artificial intelligence. In Chapter 2, **Areas of Narratives or Narrative Genres**, the author presented a tentative and large categorized system of narrative genres—that is, a “narrative genre system. It will relate to the division of the objects or materials of research and analysis in the synthetic narrative generation study based on computational methods. Chapter 3, **Narratology and Post-Narratology**, described the narratology or post-narratology that synthesizes and develops various narrative-related studies, including previous narrative research, narrative and narrative generation studies in the broad sense, and, of course, previous narratology and literary theories. In Chapter 4, **Theoretical or Philosophical Considerations for an Integrated Narrative Generation Approach**, the author described several philosophical concepts supporting the narrative generation study. From the viewpoint of philosophy or thought, the narrative generation systems are applications. In contrast, from the goal of narrative generation systems, philosophy or thought corresponds to a kind of strategic framework for establishing the vision, strategy, and direction.

A SUMMARY IN THE BOOK: AN INTEGRATED STUDY OF NARRATIVE GENERATION

This section summarizes all of previous chapters in the book.

Introduction

This chapter provided an introduction to the book. First, in **NARRATIVE: ITS SIGNIFICANCE AND IMPORTANCE**, the author discussed the significance and importance of narratives and narrative generation for humans and societies. Next, in the context of the story or narrative of the author, the history of the author’s previous narrative generation study was described from two viewpoints. This description also showed that the author pursued a different road from many other studies narrative.

Conclusion

AUTHOR'S RESEARCH HISTORY: PRIVATE PERSPECTIVE provided the overview of a personal history to show how “I,” as the author, reached the position of the current study in which narrative or literature and computer or AI are combined through the concept of narrative generation.

Further, in **AUTHOR'S RESEARCH HISTORY: TOWARD AN INTEGRATED APPROACH TO NARRATIVE GENERATION** from more academic and technological perspectives, the author described the process and results of the narrative generation study to indicate the entire framework and current problems related to the content of this book.

The author has an opinion regarding books as media. In contemporary academia, the main medium for the report of research results, especially in scientific and technological areas, is the academic journal. Papers submitted to academic journals play the role of evaluation standards for each researcher. However, as the entire systematic construction of all research is also emphasized in the academic areas of humanities and social sciences, research presented in the form of a book is still recognized as valuable. Although the author's main publication media are ordinarily academic journals and conferences, the author considered the presentation of this research in the form of a book to be important for the systematic and synthetic features of the narrative generation study. Books are a good medium for systematically and synthetically describing a study. Although these books and long papers will be introduced in detail in the sequel of this book (Ogata, in press), the description of this section is based on the above backgrounds.

Chapter 1 (What are Narrative Generation Phenomena?)

This chapter comprehensively introduced diverse topics and terms concerning discussions of narrative generation throughout the book, based on the partial revisions and expansions of Chapter 2 (Ogata, 2018a) and Chapter 3 (Ogata, 2018b) in a book by Ogata, Kawamura, and Kanai (2018).

The first section, **NARRATIVES AND HUMANS/SOCIETIES/MACHINES: TOWARD A SYMBIOSIS OF HUMANS/MACHINES FROM MULTIPLE NARRATIVE STRUCTURE**, introduced an idea that deals with narrative phenomena as the integration between the individual (narrative generation and reception system) and social levels (narrative production and consumption system); this idea was called the “multiple narrative structures model.” The multiple narrative structure model was frequently referred to in this book, and it was explained in detail in Chapter 4. This section also described the future image of the “human-machine symbiosis

system,” which included narrators and receivers as AI. The description of the chapter included important concepts in this book such as story, narrative discourse, narrative representation, expanded literary theory, fluidity and fixation, *Geinō* Information System (GIS), content, narrative genres, and intertextuality.

Next, in **FROM NARRATIVE DECONSTRUCTION TO SYNTHESIS: VISIBLE NARRATIVES AND INVISIBLE NARRATIVES**, based on the pair concept of “visible narratives” and “invisible narratives,” the author analyzed narrative components or elements to consider methods for synthesizing the analyzed elements. Visible and invisible accurately meant “perceptible” and “not perceptible.” This idea of the analysis and synthesis of various narrative elements will be systematized in the “integrated narrative generation system.” In addition, the author takes a stand on the plural thought of narratives. For example, the author did not think that invisible narratives or invisible elements (narrative deep elements) are more important than visible narratives or visible elements (narrative surface elements), and the former dominates and controls for latter. In narratives, both the deep elements and surface elements are important and efficient. The multiple narrative structures model supported the multiplicity and plurality of narratives. Further, this section also considered the method of synthesizing the analyzed narrative components and elements. The idea of the analysis of synthesis of narrative components and elements will be systematized and implemented concretely in the section of Integrated Narrative Generation System (INGS) in Chapter 1 in the sequel (Ogata, in press).

Chapter 2 (Areas of Narratives or Narrative Genres)

This chapter presented a tentative and large categorized system of narrative genres—that is, a “narrative genre system.” It was related to the division of the objects or materials of research and analysis in the synthetic narrative generation study based on computational methods. Throughout the book, the author consciously used Japanese narratives which included both universal narrative characteristics and local or cultural features; however, this narrative genre system was also constructed using Japanese narrative genres as concrete materials. First, in **BACKGROUND**, the author described “studies on narrative genres” and “histories of Japanese literature, *geinō*, and folklore” as necessary prior knowledge for reading this book. The author thought of the latter as the history of Japanese literature in the broad sense. Regarding the latter, this section extracted many genres in the narratives in Japanese literature and the related narratives in cultural areas to make a list of narrative genres.

Conclusion

As shown in the discussion in this chapter, narratives did not necessarily appear only in literary areas. Narratives also appeared in other *geinōs*, entertainment, social events, and so on. Therefore, in this chapter, the author has studied extensively a wide area of narratives, including Japanese literature in the broad sense and history. The first main discussion in this chapter was developed in **A NARRATIVE GENRE SYSTEM AND ITS SUBCATEGORIES**. Narrative genres were classified into five categories, and all of the categories are discussed in the following sections. There were five categories that correspond to the following subtitles:

- (1) Narratives as works in the narrow sense or works in the narrow sense in which narratives appear (or narratives are included).
- (2) Narratives as works in the broad sense or works in the broad sense in which narratives appear (or narratives are included).
- (3) Narratives as social and emergent phenomena or social and emergent phenomena in which narratives appear (or narratives are included).
- (4) Narratives that invade real phenomena or real phenomena in which narratives appear (or narratives are included).
- (5) Narratives as human physiological and psychological natural phenomena or human physiological and psychological natural phenomena in which narratives appear (or narratives are included).

As an overview, the narrative genre system included the following five narrative categories: (1) The narrative genre as a work in the narrow sense; (2) The narrative genre as a work in the broad sense; (3) The narrative genre as social and emergent phenomena; (4) The narrative genres invading real phenomena; and (5) The narrative genres as human physiological and psychological phenomena. After the corresponding narrative genre category was defined and explained, a concrete genre under the large genre category was addressed to discuss the characteristics.

As described above, this chapter introduced the current stage of a narrative genre system's research that aims at the development of synthetic narratology dependent on computational methods. In the following part, the author discusses from two perspectives.

First, the narrative genre system is related to the multiple narrative structures model by the author. The author can also consider the multiple narrative structures model from the "the hypothesis of the original rhetorical system and the overlapping extension." When the author considers the amplification of diversity from the structural level, through the mode and

media level, to human and social levels, from the viewpoint of the narrative rhetoric, at first, a specific rhetorical system exists in each level. Another possibility is to comprehend the rhetorical system on the structural level that defines the narrative on the deepest level as the primitive rhetorical system to see the rhetoric in the following levels under any relationships with the primitive rhetorical system. Thus, it is possible that, if the rhetorical system in the structural level can be considered to be systematically under any brain neuro-scientific mechanisms, the narrative production methods using the following specific media and social mechanisms are (although collective and organizational methods over the individual level are included) the extension based on the primitive rhetorical principle. For example, in the narrative genre created by collective or organizational methods, in one case, a primitive rhetorical unit corresponds to the person as the organizational position. In another case, a rhetorical unit is performed through division into several persons. Furthermore, many primitive rhetorical units are based on integration into a personal unit. The above forms are not simply the extension of the primitive rhetorical system. The primitive rhetorical system is rather used in an overlapping manner with minute difference or difference of the concrete realization forms, according to the different levels of productive objects in the narrative production and consumption process.

Analogically, if the rhetorical mechanism of the brain for creating a narrative like a dream has come to light, other ordinary narrative production acts at the social level can also be considered an overlapped expansion of methods using this primitive rhetoric. Collective and organizational rhetoric is no exception. The primitive rhetorical system is the most abstract and, so to speak, primitive procedure and, dependent on it, the abstracted level is gradually weakened in various ways. The linguistic structural studies, including those by Sigmund Freud (1856-1939), Ferdinand de Saussure (1857-1953), Jacques Lacan (1901-1981), and Julia Kristeva (1941-), are the pioneering ideas of these perspectives. (At the same time, the respective narrative genres are relatively individual genres. This fact is important.)

Moreover, the author considers the significance of the narrative genre system. Although the narrative genre system shows that the narrative range covers diverse directions, it transcends the media's articulation, and the range is not limited to the narratives that the authors or writers consciously and intentionally create and elaborate—i.e., narratives as art and literature. They are only a part of narrative genres. Narratives broadly go around diverse areas and are universal existences for us.

Conclusion

In narratology, narratives as arts and narratives as literature are positioned in a small part in narrative genres. Simply speaking, the narrative genre system demonstrates the diversity of narratives, narrative genres covering a very broad range, and the existence of diverse narratives. Therefore, the discussion of narrative generation or narrative creation by artificial intelligence (AI), such as “Are arts or literature by AI possible?” is merely a question that extremely narrowly limits the range of the problem. Furthermore, narrative values can also be considered from points that differ from artistic and literary values. The narrative genre system includes many types of narrative genres that cannot be evaluated simply by only artistic and literary values.

Future topics include the following:

- As a direct continuation, further developing a detailed and comprehensive narrative genre system is one of the most important goals.
- A different theme is expanding the narrative genre system to a kind of knowledge base using multimedia or an encyclopedia system. (Additionally, this narrative genre system can be used as one of the subsystems aimed at consulting usage in the narrative business model.)
- Another future topic is progressing narrative analyses based on this genre system to describe the narrative diversity amplification processes through the transformation of structure -> medium -> function. This enables development of a different type of narrative genre system based on the levels of narrative structural categorization and representative categorization to expand it toward the integrated genre system including various levels. As such extension of the narrative genre system is associated with the extension of the knowledge base or encyclopedia-like subsystem, as stated above, it will be stronger as the subsystem aims at consulting in the narrative business model. At the same time, the detailed description of narrative structures and so on at such a level enables the use of the content as the knowledge base for an automated narrative generation system.

Chapter 3 (Narratology and Post-Narratology)

This book explored new possibilities and directions of narrative-related technologies and theories, as well as their implications for the innovative design, development, and creation of future media and contents such as automatic narrative or story generation systems; this exploration was carried

out through interdisciplinary approaches to narratology that are dependent on computational and cognitive studies. The term “post-narratology” in this chapter reflected its exploration of a new narratology.

The previous book by the author (Ogata & Akimoto, 2019) presented the concept of post-narratology in detail and, in particular, described “the narratology of narrative generation,” which is a direction in the author’s post-narratology. Dependent on this previous book, this chapter revised and expanded from different perspectives the content to position organically post-narratology as a part of an integrated approach to narrative generation. For a brief summary of concept of post-narratology, referred to the introductory section in Chapter 1 (Ogata, 2019) in Ogata and Akimoto (2019).

As stated in **Introduction** in this book, the author has co-authored, edited, and published five books in Japanese and English (Ogata & Kanai, 2010; Ogata & Akimoto, 2016, 2019; Ogata & Asakawa, 2018a; Ogata, Kawamura, & Kanai, 2018). These books revealed the plans for a new research system and use various, different-but-similar terms in their discussion, such as “informatics of narratology,” “informational narratology,” “cognitive and computational approaches to narratology,” and “content generation.” Moreover, the title of this book is *Toward an Integrated Approach to Narrative Generation: Emerging research and opportunities*. The term post-narratology is intended to synthesize the above terms or concepts.

In Ogata (2019), the author divided the basic components of a narrative into story, narrative discourse, and narrative representation, based on previous narratology and literary theories. The integrated narrative generation system (INGS), which will be described in detail in Chapter 1 in the sequel (Ogata, in press), also used the basic generation phases and mechanisms for story generation, narrative discourse, and narrative representation, which correspond to the higher level’s modular division of the system, including many of the modules from the lower level. In contrast, this chapter, based on the description in Ogata and Kanai (2010) regarding the macro architecture of a narrative generation system as a multiple synthesis, stated the macro process of a narrative generation system in detail from another viewpoint from a previous paper (Ogata & Asakawa, 2018b). A narrative generation system is a unified framework for the comprehensive processing of diverse narrative phenomena and the multiple narrative structures model is a basic concept for the purpose. A narrative generation system is realized as a narrative generation mechanism in which narrative processing from micro levels to macro levels organically and spirally move by the linkage.

Conclusion

The complex structure of narrative generation was divided into several concrete hierarchies that represent lower level narrative generation systems. Next **NARRATOLOGICAL THEORIES AND RESEARCH TOPICS IN POST-NARRATOLOGY: CONTINUITY AND CUTTING IN NARRATOLOGY**, through more detailed description of the related researches in this study, considered the need for existing narratology and literary theories—which means narratological researches in the broad sense and includes a wide range of areas of human, social, and natural sciences—to develop the literary and narrative foundation of post-narratology (to ensure continuity with the previous field of narratology and, at the same time, separated it from the old tradition of narratology and narrative).

In this part, the author discusses the continuity and cutting of post-narratology from the previous narratology and literary theories. The author's narrative generation study mentioned in this book focuses on previous researches of narratology and literary theories from new perspectives; the focus is primarily on the perspectives of both information-related studies, such as AI and cognitive science, and content generation such as narratives, to aim to create a future narratology and literary theories. Therefore, the task that is required first is to systematically consider previous narratology and literary theories. Regarding this topic, the author has repeatedly examined the application and reorganization of various studies of narratology and literary theories for the design and development of narrative analyses and narrative generation systems. First, to further progress the approach adopted to address the significant issue of the re-organized application of narratology and literary theories to post-narratology, this section introduces and complements the description of the relationship between narrative analyses and narratives, narratology, and literary theories that Ogata (2018a) described in the previous narrative analyses by the author. Researchers other than the author have also advanced the body of literature based on similar ideas and plans towards aiming at the unification of narratology/literary theories and AI/cognitive science. Although we have still not reached the stage where narratology and literary theories are efficiently and entirely introduced into AI and cognitive science-based studies, to overview the current research situation, the following section simply summarizes the themes, methods (if they exist), narratology, and literary theories presented in main papers or chapters and included in several books that the author edited and wrote. In the future, based on the above relatively bottom-up works as the foundation, post-narratology will comprehensively and systematically progress the re-organization of narratology and literary theories using more top-down systematic planning methods. To summarize

this section, the final portion of this section discusses the comparison of both “expanded literary theory,” corresponding to post-narratology in this chapter, and previous narratology and literary theories by referring to the author’s previous paper.

Furthermore, the objective in the next part was to survey narratological studies referenced in papers on narrative analysis and narrative generation in the research fields of AI, cognitive science, information technology, and media technology, to investigate how previous narratology and literary theories were included in post-narratology as well as the continuous relationship of the previous and post-narratology. The post-narratology is formed from the continuity provided by previous academic studies on narratology and literary theories and that their positive and effective introduction is important for post-narratology. Conversely, post-narratology is referred to as post-narratology for good reason, as it is differentiated from the previous conception of narratology. The following description summarizes the comparison between the previous conception of narratology and the expanded literary theories that constitute the theoretical framework that is linked to post-narratology, based on papers by Ogata (1999, 2000).

First, the previous approaches to narratology and literary theories have the following characteristics:

- The definition of knowledge is non-operational.
- The experiments are impossible (descriptive method).
- The theories are not accumulative and inheritable (individuality is important).
- The main objects are literary and artistic narratives, and we consider problems of aesthetic and artistic creativity as oriented.
- Although classified and comprehensive definitions of knowledge and methods are frequently used, the core interests are each personal author and the analysis of each author.

In contrast, the approach of post-narratology has the following characteristics:

- The definition of knowledge is operational.
- Experiments on a computer are possible.
- The theories are accumulative and inheritable (the continuity and collectiveness are perceived as important).

Conclusion

- The objects are non-literary and non-artistic narratives, as well as ordinary creativities, and approaches are more or less oriented to aesthetic and artistic creativities.
- Modeling and experimentation with each topic are aligned.

Based on the above characterization, the author contemplated the following considerations. In particular, although literary approaches have realized the accumulation of many diverse interpretations of literary and narrative texts and the development of categorization systems to organize the elements, operating the theories and experimenting with the acquired knowledge have not been achieved; the literary approach has not had the methods of formalized description for the clear and common understandability for concretizing the theories in more primitive and lower level than natural language. In addition, the description style of higher leveled knowledge structures in cognitive science can be placed, conversely, as lower knowledge structures in very high and complex knowledge system of literature.

Of course, one point of significance in comparing or contrasting both fields is that relatively informal theories and results in narratology and literary theories can be formalized and detailed using methods from cognitive and computational science. However, it is of essential importance for us to achieve the developmental possibilities of literary and narrative models from the standpoint of real literary and narrative structures; this can be accomplished through the unification of the diverse interpretations and structural or rhetorical analyses of literary and narrative texts conducted in previous literary studies and constructive or model-oriented approaches found in the fields of cognitive and computational science.

For literary studies, it is necessary to unify two levels of work, cognitive and rhetorical levels. However, the author intends to convey a broad meaning with the word of “cognitive level”. Namely, it does not only refer to human mental or psychological cognition levels in a narrow sense; it also includes various cognitive mechanisms on the levels of human relationships, and collective, institutional, and social levels. The role of the former is chiefly played by cognitive and computational sciences such as AI and cognitive science and the latter is mainly related to narratology or literary theories. Here, the following two work simultaneously: the first expands the unified areas from the perspective of narratology and literature using cognitive and computational language as the representative tools of literary and narrative knowledge; the second shifts literary theories in the direction of an experimental field which holds the methods that enable the storage and transmission.

In summary, the above section mainly described the following two points: the first is that for post-narratology, namely, narrative generation systems and various generation researches that are composed of main and broad contents in post-narratology, it is necessary to use, acquire, and accumulate prior narratological and literary knowledge. The second point is related to the difference in the levels of studies, namely, narratological and literary theoretical studies correspond to the higher level and studies on AI and cognitive science are placed on the lower level.

From the viewpoint of theoretical cutting and continuity, first, narratological and literary knowledge are used to maintain the continuity. At the same time, one important point is that the cuttingness is contingent to establishing whether the central objective is reception or interpretation or generation or creation. Particularly, in previous narratology and literary theories, the theories and methods were focused on forms of reception such as reading, appreciation, and interpretation, in many cases. Generation and creation were recognized as special phenomena related to the impossibility of studying what appeared to be purely personal and individual abilities such as intuition, feeling, and sincerity. In contrast, post-narratology aims to use many parts of the theories and methods for the aspects of generation and creation. Human generative and creative abilities were recognized as techniques through which a kind of theoretical and methodological framework could be visualized. Thus, detailed models and systems were used in the context of AI and cognitive science. For example, when a system model is able to understand narrative texts using AI and cognitive science, it immediately begins to attempt to analyze the text using narrative analysis. At the same time, the program, as a system of implementation, formulates various narrative-related elements, including story structures, narrative discourse structures, narrative language expression, and the use and adaptation of the program enables its utilization to generate the narrative. Both humans and programs have two equal sides, which consist of reception and generation. Thus, in post-narratology, the cuttingness and continuity between previous narratology and literary theories is a problem.

Finally, the author would like to show several future works of post-narratology. First, the pragmatic topics included on general post-narratology include the following:

- **The Systematic Organization of Previous Narratology and Literary Theories and Their Use in Post-Narratology:** In this chapter, the author comprehensively presented previous narratology and literary theories that the author has addressed. In the future, the author would

Conclusion

like to share the perspective of previous outstanding narratology and literary theories in the world. At the same time, from the point of view of the author's post-narratology, one important objective is to survey, analyze, and model narratology and literary theories, especially those in Japan, although many of the really useful studies have not been originally described as "narratology" and "literary theories." Although studies focusing on modern and contemporary literature have recently been initiated by a few literary researchers, there are no systematic studies on narratology and literary theories from the ancient to the middle and modern ages. Moreover, in the future version of post-narratology by the author, a large portion of the work will be based on the survey and study of *kabuki*.

- **Considering the Systematization of Research Themes in Post-Narratology:** This chapter introduced the themes of several books by the author. Although the previous post-narratology by the author as a research collection was based on themes and directions that were roughly decided and developed in a bottom-up manner, in the future, the revised post-narratology will be expressed in a top-down collection of studies in which the papers will be arranged under the construction of themes determined in advance and subsequently prepared. However, in the relations with the philosophical thoughts on narrative generation, such as fluidity - fixation and norm - deviation, the developmental process of post-narratology study itself also requires that the formation of a norm and the fixation of a fluid state must be deviated and fluidized. This is an important condition that must be in place to advance post-narratology.

Concerning post-narratology, as developed by the author, or the narratology of narrative generation, the author is planning a systematic approach for their research and development. One future goal is to develop post-narratology or the narratology of narrative generation based on a more consistent story including the following parts:

- **A Comprehensive Systematization of Related Studies:** This section is closely related to the section on "the systematic organization of previous narrative and literary theories" in the general development of post-narratology provided above. The author systematizes previous narratology and literary theories according to the story of post-narratology in broader temporal and spatial ranges that, following the

20th century, are not necessarily limited to narratology and literary theories in the narrow sense. In other works, the author treats various literary theories, literary thoughts, and narratology as “cultural narratology” and also focuses on *kabuki*. Concurrently, studying the directions of informatics and information technologies related to AI and cognitive science will be, of course, a direct benefit to the development of narrative generation systems. Moreover, other social and human sciences have important roles for the generation of macro narratives. One of the future works planned by the author is their systematization under a consistent framework or story described previously in various papers.

- **The Development of Philosophical Foundation:** As described in the above section, narrative generation systems created by the author were constructed on the philosophical foundations described in the following terms: expanded literary theory, multiple narrative structures, circular control, fluidity and fixation, and norm and deviation. Of course, from a broad perspective, narrative generation systems themselves reveal concepts of philosophy and thought. However, the above elements of philosophy and thought are included in the broad framework. One future issue is the use of narratological methods and thoughts acquired from *kabuki*'s narratives to expand the above concepts related to philosophy and thought. This is also related to the fact that *kabuki*, as a result, is a narrative genre that fits very well with concepts shown above, especially multiple narrative structures and fluidity-fixation. (This theme is related to the content of Chapter 4.)
- **Cyclical Approach Between Narrative Analysis and Modeling:** One of the future central works is the continuation of introducing the analyses and surveys of *kabuki* seen as narrative generation and other genres into the unified *kabuki*-like narrative generation model or the *geinō* information system model. Of course, the results will be utilized in the subsequent development and application of systems in more concrete forms.

Chapter 4 (Theoretical or Philosophical Considerations for an Integrated Narrative Generation Approach)

As mentioned previously, one aspect of the narrative generation study in this book was the systematic and synthetic characteristic. Generally, systematic features of academic fields were supported by corresponding ways of thinking

Conclusion

and philosophies or by fundamental or background information about a research object. Of course, an extreme purpose was not the construction of thought and the philosophy of narrative, but the technological implementation of the social development of narrative generation systems. In this chapter, first, **BACKGROUND** showed various previous examples regarding narrative-related philosophies and thoughts.

Next, in **A THEORETICAL FRAMEWORK FOR THE SYNTHETIC COMPREHENSION OF NARRATIVE GENERATION: MULTIPLE NARRATIVE STRUCTURES MODEL AND EXPANDED LITERARY THEORY**, the author introduced the two most basic and closely related philosophical ideas for narrative generation: the multiple narrative structures model and expanded literary theory. Moreover, the author explained them in detail and concretely. Another viewpoint on the expanded literary theory was also discussed in the section of *Expanded Literary Theory Seen from Another Perspective: Technology and Management in Narrative Generation*.

CONCEPTS FOR DYNAMIC NARRATIVE GENERATION PROCESSES discussed the dynamic features in a narrative-generation process through the following three philosophical concepts: “circular narrative control,” “fluidity and fixation,” and “normative and deviation.” First, the concept of circular narrative control meant that a narrative generation is cyclically performed and indicates the flexibility and freeness of generation order. The concept of fluidity and fixation shows that a narrative generation process was performed between fluid generation and fixed texts. The normative and deviated generations also formed the dynamism of narrative generation. In summary, circular narrative control means the circular continuation of narrative generation through various types of information; fluidity and fixation and normative and deviation mean the change of weighting in the continuous circulation. The author intends to consider the dynamics of narrative generation by their combination. Furthermore, the author discussed plural strategies in narrative generation in the section of **PLURAL STRATEGIES IN NARRATIVE GENERATION AS A SYNTHETIC DISCUSSION** as the last philosophical idea presented here to support the author’s narrative generation study. Although it could be positioned as part of the multiple narrative structures model, it got an independent section in this chapter.

The philosophical concepts in this chapter become fundamental concepts in the sociological direction of how narrative phenomena function at the individual and social levels. On the other hand, they can also work as pragmatic concepts for designing and developing INGS and GIS and applying and distributing them into the social and other levels. The former has purely

theoretical significance and the latter has pragmatic significance. Thus, the philosophical concepts in this chapter have the functions and significances of both theoretical and pragmatic directions. Simultaneously, two kinds of functions and significances exist in an interrelationship.

Through the first theoretical viewpoint, we can consider individual and social narrative phenomena based on implementations according to the theoretical frameworks of the multiple narrative structures model, circular narrative control, norm-deviation, and fluidity-fixation. For example, Nishigaki (2018) says that science and technology are narratives in the same meaning as myths, although they are open to verifiability based on real evidence. In the author's research system, which aims to comprehend humans and worlds as a kind of pan-narratology in a broad meaning, all of narrative phenomena in various levels, as shown in the narrative genre system in Chapter 2, can be interpreted through the philosophical concepts and their synthesis as described in this chapter. Furthermore, this study essentially does not understand generation and interpretation as completely different things because the interpretation of the world is a concept that forms a pair with the actions to the worlds.

Theoretical functions in philosophical concepts have an essential relationship with pragmatic functions. Moreover, as shown in the categorization of narrative genres, as the narratives in this study are not narratives as classified in literature and the arts in the narrow sense but are concepts that will be useful for, for instance, social design and political acts.

Next, several future issues are identified:

- **Expanded Literary Theory:** The author plans to survey Japan's narratologies and literary theories.
- **Multiple Narrative Structures Model:** The author aims to perform multiple narrative generation by modeling, design, and the development of GIS with INGS.
- **Narrative Dynamics Based on Circular Control, Norm-Deviation, and Fluidity-Fixation:** An author's future plan is to incorporate the respective concepts and methods into the generation control parts of INGS and GIS.

FUTURE RESEARCH DIRECTIONS IN THE BOOK: FROM THEORIES AND TECHNOLOGIES TO NARRATIVE CREATIONS

The author mainly deals with the following topics in the next book, *Internal and external narrative generation based on post-narratology: Emerging research and opportunities* (Ogata, in press).

- **The Consideration of Narrative Generation Mechanisms Through Narrative Analyses:** Intending to use directly the practices of narratology, this study develops a narrative rhetorical system for diverse narrative genres. The author considered how narrative generation parallels the human brain and its mechanism and positions rhetoric as objects' representation in the world and developmental processes, namely the generation and transformation of semantic structures. Our pursuit of principles of the world can be realized through observation at various levels and the constructive exploration of the principles—that is, the rhetoric of generation and transformation. In this study, various narrative analyses were also conducted according to such direction. Basically, analyzing narrative texts or works in various genres and narrative generation processes in many genres from personal level to collective, organizational, and social levels makes it possible to acquire a unique rhetoric in each genre and systematically abstract the acquired rhetorical information. The author also presented constructive analyses of rhetorical information through computationally and cognitively re-constructing previous narratology, literary theories, and literary critiques. An essential reason that this study used computational and cognitive methods was the experimental simulation of the knowledge and mechanisms at various narrative levels of narratology and cognitive science. Another reason was that they provide an effective means for considering mutual relationships among hierarchical levels.
- **A fundamental Narrative Generation System:** A narrative generation system presented by Ogata (1996) was constructed as a general framework that integrates diverse types of knowledge related to the conceptual parts of narrative generation. This system architecture has the following three categories of narrative knowledge: *narrative techniques*, for operating narrative structures; *narrative strategies*, which are rule-based knowledge for controlling the use of the above narrative techniques; and concepts of narrative structure generated

by narrative techniques and strategies. Although narrative strategies actually needed to be executed through cognitive motivations and the desires of the narrator who controls the techniques and strategies, the experimental system in the research stage more simply refers to several parameters that represent the characteristics and goals of the generated narrative. The narrative generation system introduced in Chapter 1, the Integrated Narrative Generation System (INGS), has been designed and developed based on the above concepts and a previous story generation system by Ogata (1992). INGS will not be a static system; it is always in being refined and augmented. In each stage, INGS will be a bridge to later developments and applications.

- **Applications and the Social Development and Distribution of Narrative Generation:** The next part of the research was the process in which narrative rhetorical analyses and narrative generation systems are applied in several directions. The first application system that the author conducted was a marketing- and advertising-integrated support system (Ogata, Watanabe, Hori, & Ohsuga, 1995), and it was a narrative generation's application system for the consistent support of tasks from the targeting work of a product by marketers to the CM scenario creation by advertising creators. One of the objectives of the application system was to stimulate the thinking process of marketers, advertising creators, and other participants, to expand their perspectives, and to support their trial-and-error works using diverse and flexible narrative generation ability to stimulate idea creation. Later, the author's advertising narrative generation studies have continued to develop, and the author is currently developing a new INGS-related advertising project with the biggest advertisement production company in Japan. Another large application area was *geinō*, a Japanese word that includes dramas such as *kabuki*, folkloric performances, and modern entertainment or show business. Traditionally in Japan, the world of *geinō* has been an effective space of integrated narrative production and consumption with complex organizations and media mechanisms constructed by talented personal creators. The *geinō* can be regarded as a system that continues to produce narratives as works of various genres, including cross-media rumors and gossip by *geinōjin* (performers) and talents as characters. The author has analyzed and simulated the vast world of modern *geinō* from several perspectives such as the level of produced narratives; the level of organizations, media, and creators that produce narratives to bridge them to the design; and the development of social

Conclusion

and technological systems that support or simulate the narrative production and consumption mechanism of *geinō*. The author is currently designing *geinō* phenomena as the model and system of an integrated mechanism, *Geinō* Information System (GIS), that creates narratives of *geinōjins* through the organizational association of the following mechanisms: narrative production, narrative development, reception space, narrative reception, and narrative interpretation. GIS has developed a system that included or works with INGS beyond mere applications and intends to develop a fundamental mechanism for pushing narrative generation study into the world of social distribution and development.

- **The Production of Literary and Artistic Works or Literary and Artistic Organizations:** Finally, an objective of the author in using these mechanisms was to explore experimentally new narrative genres and works that have characteristics such as extemporaneity, mutability, immediacy. However, this plan does not yet have a concrete goal or a strategy for achieving that goal. However, the author considered that although a narrative writer's creativity is shown in the work and whether the texts are literary musical score, the writer's goals and intentions are not necessarily reflected directly in the presentation of the narrative work. Similar to the creation of a pottery, the narrative production process included the image in which the narrative work is involved in the non-autonomic process in the furnace of computers and acquires diverse representation possibilities according the writing process. In addition, the narrative work is gradually produced through the continuous and mutual practices among various agents in the multiple narrative structure model, including the receivers. An important consideration was how to explore and develop various possibilities for narrative representation and creation that are impossible in current narrative genres, including novels. In the future, all the author's research and development will be organized from the above viewpoints. At the same time, the author planed in parallel, to explore the principle of literary or artistic movement beyond business in the narrow sense. The point where the principles of engineering and business were overcome or downfall meant that a mental principle may be a goal in the author's entire activity. In particular, produced narratives will appear in the final stages.

The next topics are a part of concrete future topics. These will be discussed in Ogata (in press).

- **The Development of a Fundamental System:** The author will progress works toward narrative generation's simulation integrated with previous narratology models. For example, previously, the author has previously conducted research on the development of a system's mechanisms that applied concrete narratology and literary theories, such as the theories and techniques of Propp, Genette, and Jauss. In the future, the author will try narrative simulations that have greater continuity with previous narratological, literary theories, methods, and techniques; these will extend beyond the previous attempts on aspects such as story, narrative discourse, narrative representation, and social level. These attempts will include a continuous work of the systematization of each narratology or literary theory. However, one intention behind this "continuousness" is to ensure a synthetic and systematic approach in the determination of which various continuous characteristics should be comprehensively included while the simultaneous cutting of continuousness is also performed. Moreover, as one very concrete and pragmatic objective, the author aims to comprehensively introduce cultural narratology in Japan and will especially focus on the narrative generation model of *kabuki* on a broader scale. The above means that the author will pursue the future development of the integrated narrative generation system.
- **The Development of a More Social-Level System:** Conversely, this level is realized through the *geinō* information system. One direct goal is to develop the first experimental version of a *geinō* information system that is at present essentially a conceptual design. However, there are problems to address for its implementation. Its many parts are related to the studies and analyses of *kabuki* as a narrative generation system.
- **Toward Social Narrative Development and Distribution, External and Internal Narrative Creation, and the Creation and Development of New Types of Narratives:** As stated in various places, post-narratology is not a narratology focusing on reception and interpretation, but a narratology aimed at generation and creation. Therefore, the theories, methods, and techniques of post-narratology must be connected to a new type of narratology through which narratives or narrative works, and further narratology itself, are also generated and created. Although, in the case of the creation of narrative works, things

Conclusion

that are newly created are divided into created narrative content itself or the narrative creation process, one possibility is narrative generation, as the synthesis of methods and further knowledge acquired from previous narratology and literary theories and the conscientization enable the use of abilities for clearly comprehending knowledge, methods, and techniques that were previously regarded as intuitive human talents. For instance, the author is currently collaborating on a Japanese advertising film, with a production company that was the main producer of *Manbiki Kazoku* [*Shoplifters*] that received the Palm d'Or at Cannes film festival 2018; the collaborative project's objective is to collect creation-related parameters related to advertising reception and production using many advertisement films and aims for the development of an advertising narrative simulation based on the acquired parameters. In this project, the narrative generation system by the author can be organized to elaborately produce works imitating current or contemporary advertising works. If we can call such a direction "the direction to comprehension and integration," another possibility is the direction that leads to the extensive generation of new narratives by using existing knowledge structures and expanding them further by deconstructing and deviating from an existing work. Moreover, one of the other possibilities of narrative generation is the method of "an extreme narrative generation which radically utilizes only one method or technique." This indicates that narratives that can be generated through the repetitive or recursive usage of one single narrative technique. In post-narratology, many methods and techniques in previous narratology and literary theories will be acquired and systematized in forms that can be computationally referenced and utilized. Therefore, the styles of narrative creation will be able to be explored in many directions. Additionally, regarding the narrative content that remains to be created, similar to many general novels or stories, the way in which the element of "I" is connected to a generated narrative is an important topic.

In the next book (Ogata, in press), these conceptual considerations will be bridged to the technological and applicable directions of narrative generation. In particular, the next book will introduce INGS, kabuki analyses and application systems, advertisement analyses and application systems, and internal and external approaches to narrative generation.

Finally, simply speaking, in more artistic and literary meanings, the most important future topic is how to actually create narrative works. Thus, the author's narrative generation study will gradually move in the direction of the practice of narrative generation. In this book, narratives did not necessarily include only literary or artistic narratives but covered more *geinō*-like and folktale-like narratives. However, in the future, the creation of an interesting narrative in very broad sense will be a goal of narrative generation studies. Furthermore, problems and themes of literary and artistic quality will emerge as an important topic at this stage. In particular, an important future direction is “the creating narratives from the theories and technologies of narrative generation.” Here, narrative creation means the problem of how are narratives as literature and arts created. Hence, an integrated study to narrative generation the narrative of the author will gradually move toward narrative creation practices.

This chapter described the two main themes in the entire book in **MAIN TOPICS IN THE BOOK** and comprehensively summarized the contents and results in **A SUMMARY IN THE BOOK: AN INTEGRATED STUDY OF NARRATIVE GENERATION**. In particular, the author summarized each chapter and discussed important concepts and future directions. Moreover, this chapter showed future directions and visions in the section of **FUTURE RESEARCH DIRECTIONS IN THE BOOK: FROM THEORIES AND TECHNOLOGIES TO NARRATIVE CREATIONS**. In particular, this book provided important backgrounds, concepts, including philosophical concepts and thoughts, for the synthetic approach to narrative generation.

ACKNOWLEDGMENT

This chapter's research was supported by JSPS KAKENHI Grant Number18K18509, Kayamori Foundation of Information Science Advancement Research Grant, The Telecommunication Advancement Foundation Research Grant, and AOI TYO Holdings Inc.

REFERENCES

Nishigaki, T. (2018). *AI genron—Kami no shihai to ningen no jiyū* [The Principle of AI]. Tokyo, Japan: Kōdansha.

Conclusion

Ogata, T. (1992). *Setsumeii ni motozuku monogatari seisei system ni kansuru kenkyū* [Study on an explanation-based narrative generation system] (Master's dissertation). Tsukuba University, Tokyo, Japan.

Ogata, T. (1995). *Monogatari seisei—Monogatari no tame no gihō to senryaku ni motozuku approach* [Narrative generation: An approach based on the techniques and strategies for narratives] (Doctoral dissertation). The University of Tokyo, Tokyo, Japan.

Ogata, T. (1999). An attempt for systematization of narrative discourse theory from the viewpoint of narrative generation system. *Proceedings of IPSJ SIG Computers and the Humanities*, 99(85), 31–38.

Ogata, T. (2000). Tajū monogatari kōzō no macro model—Simulation toshite no monogatari josetsu [The macro model of multiple narrative structures: an introduction to a narrative as a simulation]. *Simulation & Gaming*, 10(1), 35–46.

Ogata, T. (2010). Shōsetsu—Ryūdō to kotei, sakuhin no hō he [Novels: Fluidity and fixation, toward works]. In T. Ogata & A. Kanai (Eds.), *Monogatariiron no jōhōgaku josetsu—Monogatari seisei no shisō to gijutsu wo megutte* [An introduction to informatics of narratology: Around the thoughts and technologies of narrative generation] (pp. 130–169). Tokyo, Japan: Gakubunsha.

Ogata, T. (2018a). Monogatari to ningen/shakai/kikai—Tajū monogatari kōzō kara ningen/kikai kyōsei-kei he [Narrative and human/society/machine: To human/machine co-existence system from multiple narrative structures]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation]. Tokyo, Japan: Hakutō Shobō.

Ogata, T. (2018b). Monogatari no bunkai kara gōsei he—Mieru monogatari to mienai monogatari [From the de-construction of a narrative to its synthesis: Visible narratives and invisible narratives]. In T. Ogata, Y. Kawamura, & A. Kanai (Eds.), *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation]. Tokyo, Japan: Hakutō Shobō.

Ogata, T. (2019). A computational, cognitive, and narratological approach to narrative generation. In T. Ogata & T. Akimoto (Eds.), *Post-narratology through computational and cognitive approaches* (pp. 1–84). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-7979-3.ch001

Ogata, T. (2019). Toward a post-narratology or the narratology of narrative generation. In T. Ogata & T. Akimoto (Eds.), *Post-narratology through computational and cognitive approaches* (pp. 85–142). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-7979-3.ch002

Ogata, T. (in press). *Internal and external narrative generation based on post-narratology: Emerging research and opportunities*. Hershey, PA: IGI Global.

Ogata, T., & Akimoto, T. (Eds.). (2016). *Computational and cognitive approaches to narratology*. Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0432-0

Ogata, T., & Akimoto, T. (Eds.). (2019). *Post-narratology through computational and cognitive approaches*. Hershey, PA: IGI Global. doi:10.4018/978-1-5225-7979-3

Ogata, T., & Asakawa, S. (Eds.). (2018a). *Content generation through narrative communication and simulation*. Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4

Ogata, T., & Asakawa, S. (2018b). Aspects of content generation through narrative communication and simulation. In T. Ogata & S. Asakawa (Eds.), *Content generation through narrative communication and simulation* (pp. 1–47). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-4775-4.ch001

Ogata, T., Hori, K., & Ohsuga, S. (1996). A basic framework for narrative conceptual structure generation based on narrative techniques and strategies. *Jinkō Chinō Gakkaishi*, 11(1), 148–159.

Ogata, T., & Kanai, A. (2010). *Monogatariiron no jōhōgaku josetsu—Monogatari seisei no shisō to gijutsu wo megutte* [An introduction to informatics of narratology: Around the thoughts and technologies of narrative generation]. Tokyo, Japan: Gakubunsha.

Conclusion

Ogata, T., Kawamura, Y., & Kanai, A. (2018). *Jōhō monogatariiron—Jinkōchinō, ninchi, shakai katei to monogatari seisei* [Informational narratology: Artificial intelligence/cognition/social process and narrative generation]. Tokyo, Japan: Hakutō Shobō.

Ogata, T., Watanabe, K., Hori, K., & Ohsuga, S. (1995). A basic framework of the application of narrative generation system for integrated support of marketing/advertisement. *Journal of the Japan Society for Management Information*, 4(1), 19–42.

About the Author

Takashi Ogata received his Bachelors in Social Sciences from Waseda University in 1983, he received his M.S. from Tsukuba University in 1992 and his Ph.D. from the University of Tokyo in 1995. He has attained industrial experience since 1983 at software development companies. Having been an Associate Professor in the faculty of Engineering at Yamanashi University since 1997, he is now a Professor in the faculty of Software and Information Science at Iwate Prefectural University since 2005. He is a member of the Japanese Society for Artificial Intelligence (JSAI), the Japanese Cognitive Science Society (JCSS), and the Japanese Association for Natural Language Processing. He was also the primary manager of the Literature, Cognition, and Computer (LCC) research group at the JCSS. He received the JSAI best paper award (1996), best paper award from the Japan Academy of Advertising (1996), and other academic awards. In addition to many papers, He has published academic books, including *Monogatariron no Jōhogaku Josetu (An Introduction to the Informatics of Narratology)* (T. Ogata & A. Kanai, 2010, Tokyo: Gakubunsha), *Computational and Cognitive Approaches to Narratology* (T. Ogata & T. Akimoto, 2016, IGI Global), *Content Generation Through Narrative Communication and Simulation* (T. Ogata & S. Asakawa, 2017, IGI Global), *Jōho Monogatariron (Informational Narratology)* (T. Ogata, Y. Kawamura, & A. Kanai, 2018, Tokyo: Hakutō Shobō), and *Post-Narratology Through Computational and Cognitive Approaches* (T. Ogata & T. Akimoto, 2019, IGI Global). Furthermore, he is currently writing and editing five books related to his concept of post-narratology by Japanese and English. His research interests include the following broad areas: (1) Computer science and information technologies: narrative (story) generation (system), artificial intelligence, cognitive science, natural language processing and generation, ontology and conceptual dictionary, etc. (2) Humanities: narratology, literary theories, semiotics, semantics, discourse theory, philosophy, *kabuki* and Japanese arts and entertainments, Japanese narratologies and literary theories, etc. (3) Social sciences: content business, marketing and advertising studies, sociology, social philosophy, etc.

Index

A

Artificial Intelligence 1-3, 233, 263, 320

C

circular control 333, 370

circular narrative control 315-316, 366-367, 395

consumption system 1-3, 47

F

fluidity and fixation 2, 19-20, 22-24, 47, 315-316, 333, 365-366, 371-374, 382-383, 389, 395

H

human-machine symbiosis 1-3, 27, 47

I

invisible narratives 1-2, 28, 47

J

Japanese narratives 59, 102, 344

M

multiple narrative structures model 1-3, 13-14, 28, 47, 164, 180, 210, 226, 234, 282-283, 316, 326, 330-332, 339, 345-347, 359, 365, 374-376, 395

N

narrative generation 1-6, 9-10, 13, 17-29, 35-36, 39-41, 44, 46-47, 59, 63, 70-72, 83-84, 92, 94, 98, 102, 162-166, 168-172, 174-185, 187-199, 201-203, 209, 212-213, 216-218, 220-223, 226-236, 246-249, 257, 260, 263-279, 281-283, 315-317, 319-324, 326, 330-335, 337-340, 344-348, 360, 362-383, 385-395

narrative genre system 4, 59-63, 70-72, 76, 96, 102-103, 231-233

narrative genres 2-4, 14, 33, 35, 44, 46-47, 59-63, 70, 72, 75, 77-79, 83-84, 98, 102-103, 197, 202, 221, 231-233, 246, 249, 257, 331, 335, 347-348, 350, 352, 355, 357, 376, 381, 392-393

narrative phenomena 1-2, 46, 164, 180, 230, 283, 330-332, 339, 345, 347-349, 352, 357, 360, 376-377

narrative philosophy 315, 317, 324

narrative production 1-3, 46-47, 71, 84, 166, 234, 267, 343-344, 347-348, 352-353, 355, 357, 367, 376, 392-393

narrative research 162, 172-173

narrative theories 36, 39-40, 278, 329

narratology 3, 71, 79, 162-165, 167, 169-175, 178-180, 189, 191, 197-199, 201-202, 205, 207-210, 218, 232, 235, 246-249, 257-263, 265-266, 272, 274, 278, 283, 316-320, 322-327, 329-339, 341-343, 345, 353, 390

norm and deviation 315, 333, 365, 368-370

P

post-narratology 35, 162-164, 179, 201-202, 235, 258, 283, 317, 332, 334-335, 337, 394

R

reception system 1-2, 47

S

social development 28, 172, 265, 273, 316, 347, 394
synthetic narrative 59, 70, 102, 198, 279

U

universal narrative 59, 102

V

visible narratives 1-2, 28, 47