Roy Sommer

Beehive Narratology?

Why Narrative Research Should Not Ignore Complexity Theory

Marina Grishakova / Maria Poulaki (eds.): *Narrative Complexity. Cognition, Embodiment, Evolution*. Lincoln, NE: University of Nebraska Press 2019 (= Frontiers of Narrative Series). 468 pp. USD 75.00. ISBN 978-0-8032-9686-2

1. Introduction

When we call something complex, we usually mean that it is difficult to understand, complicated, and not easily analysed. In complexity theory, however, as Marina Grishakova and Maria Poulaki point out in the introduction to this fine collection of original essays, the term takes on a more specific meaning. Or rather, many more specific meanings, explored here in 17 chapters which unfold a fascinating research agenda.

Distinguishing between formal, systemic, and processual complexity, Grishakova and Poulaki's introduction provides an interdisciplinary overview of scientific and scholarly approaches to complexity before looking more closely at narrative poetics. The danger, the authors contend, is that the new paradigm merely revives old dichotomies like convention vs. innovation. Instead they propose to consider narrative as "a tool that may reveal, enhance, or suppress complexity by participating in agentic-systemic dynamics" (p. 13). This open definition is well suited to what Grishakova and Poulaki call a "pragmatic perspective" which seeks to embrace "both the complexity of narrative forms and the complexity of their production and experience in various contexts" (p. 12).

2. Coming to terms with complexity and narrative

Part 1 of the book, "Narrative Complexity and Media," begins with an essay by Marie-Laure Ryan which is simply titled "Narrative as/and Complex System/s". Ryan maps what to most narrative theorists and literary scholars will be terra incognita. A concise survey of scientific complexity theories, or rather some key components, leads her to a systematic distinction between ways of

theorizing the confluence of complexity and narrative. Complexity, we learn, may refer to systems and processes, it is characterized by concepts like emergence, nonlinearity or recursivity, and it serves to describe a wide range of phenomena, from ant colonies and beehives to narratives. Complexity may be considered a property of all narratives or only of a subset of all narratives, and a narratological approach to narrative complexity may, but need not be inspired by science (cf. pp. 31f.). In this masterclass on theory design, Ryan refrains from normative definitions, showing readers instead how to create a conceptual framework from scratch. For her own project, she defines emergence as a distinctive scalar property of narrative, i.e. its ability to produce multiple stories. Successful, aesthetically pleasing narrative design must, if readers are not to be put off by cheap plot tricks (cf. p. 34), strike a fine balance between creating a top-down, centrally controlled system and allowing for the impression of an emergent, bottom-up system. A series of diagrams visualizing Ryan's distinction between different kinds of plot illustrates the heuristic value of this approach.

David Ciccoricco and David Large ("Caution, Simulation Ahead: Complexity and Digital Narrativity") hold that complexity is "a virtue of literary texts and arguably a vital element of any definition of the same" (p. 56). Note that they speak of literary texts here, not narratives; this is a vital distinction in literary studies. The authors' example is not a literary text, however, but an app hybrid influenced by – and making use of – narrative strategies of the novel, film, and video games. Produced by Los Angeles art and games studio Tender Claws (for a trailer visit https://tenderclaws.com/pry), the app is called *Pry*. As interactive fiction, *Pry* not only blends video, audio, and text in innovative ways, but invites metaphorical readings: readers (users?) may pry open the eyes of the narrator using the touchscreen interface. Ciccoricco and Large present examples of students engaging with *Pry* in order to show how "the ludic quality of the text complicates their reading experience in significant ways" (p. 58): readers may take on different roles, co-construct the story from fragments, or invite self-reflective reassessment of familiar touchscreen gestures.

Emma Whittaker ("The Wave-Crest. Narrative Complexity and Locative Narrative") considers authorial intention a defining feature of site-specific narratives (cf. p. 75). Like Ciccoricco and Large, she constructs her argument around exemplary case studies and puts emphasis on the interaction of text and audience, more specifically, the "interaction mechanism" – i.e. "ways the participant engages with the narrative" (p. 86). This may include listening, searching and discovering (quite literally, as locative narratives strategically move with the reader, who may access them through smartphone apps or dedicated audio guides), and a long list of cognitive and physical while-reading activities which characterize a locative narrative experience. Like many unfamiliar phenomena, this may be difficult to grasp until you have been exposed to such an experience; the moment you encounter locational storytelling in the wild, however, the somewhat confusing effect of augmented reality (which doesn't necessarily

presuppose the use of technologies marketed under this name) conjures up what Whittaker calls "ontological ambiguity" (p. 76).

Noam Knoller ("Complexity and the Userly Text") ventures on "Habermasian public-sphere territory" (p. 99), raising a number of important questions: How can events of considerable complexity be narrated? How, given that reading habits have changed "to the point that the public's capacity to deeply engage with any story needs to be reappraised" (p. 99), can we make sense of a hypercomplex, information-intensive environment? Are close reading and deep attention still an option? Knoller suggests that while long narratives mirror the complexity they seek to understand, hypercomplexity calls for cognitive reduction (cf. p. 104): we need digital artefacts to serve as complex semiotic scaffolds for meaning production (cf. p. 106). Modifying Roland Barthes' notion of the readerly text, he proposes to think of userly texts as "a form of reception that proceeds through embodied-cognitive performance" (p. 107). The form of the userly text, he further argues, is organized around two constructs, an encoded storyworld and an interaction model. To a reader unacquainted with the kind of digital narrative he has in mind, Knoller's vision of a userly text appears slightly utopian, promising solutions to all problems. But as we do need solutions to all the pressing problems he mentions, there is absolutely nothing wrong with that. If people don't download and read policy papers by leading think tanks (cf. p. 103), we need to explore other avenues.

Ulrik Ekman's take on what he calls "informative autobiographies" ("The Complexity of Informative Autobiographies") promises nothing less than a new understanding of self-writing in the digital age, which also entails a thorough revamping of narratological premises and practices. While this is all pretty fascinating, one cannot help feeling sometimes that this dense argument, spanning a wide arch from computing and big data to cognitive narratology, might have benefitted from a more focused approach – if only to reduce the cognitive load for the reader. Because Ekman's claim that we currently see an explosion of autobiographical production is certainly justified, I would have appreciated a clearer distinction between self-writing as an activity, autobiography as a literary genre, and the technologies involved in the harvesting and processing of inaccessible data about the self. No narratologist, to my knowledge, has ever maintained that "narrative is a problem of organized complexity that can, with the right kind and amount of theoretical care, be reduced to a simple problem with two or fewer variables" (p. 132). Single-variable narratology? Seriously? Such niggles aside, Ekman's essay offers much food for thought and makes a significant contribution towards theorizing the functions of narrative and storytelling in contemporary society; if you're working on autobiography, put this on your reading list.

The subtitle of Part 2, "Cognition and Narrative Comprehension," introduces a new perspective by focussing on processes of reception. In "Sources of Complexity in Narrative Comprehension across Media," Joseph P. Magliano, Karyn Higgs, and James Clinton make the case for media-specific approaches to narrative comprehension from the point of view of cognitive psychology.

Their argument – which complements, and in part challenges, the more generalizing evolutionary approaches presented in the concluding chapters by James Carney and José Angel García Landa – is based on the premise that the choice of narrative media (writing, graphic narrative, film, video, animation) has an impact on the relationship between cognition and perception, the challenges involved for audiences, and the kind of processing required to make sense of the narrative experience. These claims are substantiated in a systematic manner with the help of a distinction (cf. p. 151-156) between "front-end processes" (attentional selection and information extraction) and "back-end processes" (inferences and structure building) which is supported by visual examples and yields testable hypotheses – for instance, regarding the differences between reading and viewing, or differences between multimedia formats with respect to the division of attention among multimodal information bites. One might complicate things further by paying even more attention to the heterogeneity of artefacts like the novel, which tend to combine non-narrative and narrative modes of discourse to varying degrees – a key factor acknowledged here in the discussion of affordances (cf. p. 156). The conclusion of this thought-provoking chapter raises an important methodological challenge for empirical research, i.e. the (im)possibility of "controlling for semantic equivalence in narrative content" (p. 169). Literary scholars will hasten to add that content itself is notoriously hard to define and often tied to form, but narrative theory can only benefit from the psychological take on things, if it is presented in such a compelling and insightful way.

Neil Cohn ("Structural Complexity in Visual Narratives. Theory, Brains, and Cross-Cultural Diversity") continues the discussion of (drawn) visual narrative through the lens of a visual narrative grammar (VNG). This differs from classical grammatical accounts of film in that it is no longer inspired by functional grammar in the Chomskyan tradition but based on more recent variants of construction grammar. The details are too complex for a brief summary, but if you're working with graphic narratives or comics, this is essential reading. VNG is embedded in a culture-specific "Visual Language Theory" (p. 182), which allows for a distinction among different 'dialects' (for instance, U.S. superhero comics or Japanese manga). These culture-specific narrative styles can be compared systematically by means of corpus analysis. It is quite fascinating to see the notion of a narrative grammar, long abandoned in literary studies, re-surfacing in psychological research on visual storytelling – maybe it is time for another linguistic turn in narrative theory.

"But how does one determine what is simple or complex?" (p. 200) In order to answer this question, James E. Cutting ("Simplicity, Complexity, and Narration in Popular Movies") comes up with a refreshingly intuitive suggestion: we should count things and compare numbers. *What* you count depends on your discipline. For instance, Lisa Zunshine's cognitive approach to mind-reading in narrative fiction may lead us to conclude that texts without an indication of their characters' mental states are less complex than those that engage in multi-level mental play. Conversely, style manuals which promote an aes-

thetics of simplicity in order to reduce cognitive difficulty for readers will recommend omitting redundant words and clauses (cf. p. 207). Quantitative film analysis confirms that narrational complexity in popular movies has increased considerably since the 1940s (cf. p. 213). Cutting's "cross-disciplinary gambit" (p. 203) yields a simple definition of complexity which "may best be thought of in terms of cognitive processing; how hard the mind has to work to understand something" (p. 216). Whether such difficulty is considered enjoyable (narrative fiction and film) or distracting depends, then, on variables such as context, preference, and changing cognitive capacities.

In "Heteronomy of Narrative. Language Complexity and Computer Simplicity," the fourth and final contribution in Part 2, Hamid R. Ekbia offers a comprehensive survey of the state of the art in AI and natural language understanding. To date, no computer has passed the Turing Test, yet significant advances have been made in language processing. Ekbia explains how complexity is reduced through domain specificity, attribution and inscription, formalization, abduction, statistical correlation, and deep learning. The examples of the Scheherazade system and Google Translate illustrate recent advances in "narrative intelligence" (p. 231).

Part 3, "Experience, Subjectivity, and Embodied Complexity," begins with "Narrative Here-Now," a contribution from a pioneer of narrative and cultural theory. "Narratology," Mieke Bal points out, "is not a grid to simplify literature but a tool for making the complexity of narrative texts visible" (p. 247). Her reading of Flaubert's *Madame Bovary* promptly yields a new generic category, the "narrative of complexity" (p. 266), whose complexity lies specifically in its "strategies of confusion" (ibid.). Narratological concepts of ontological levels, FID, and duration, Bal argues, help to make their complication visible, revealing the novel's continued political and cultural relevance. Bal is not only an eminent literary scholar but also an innovative filmmaker whose video work *Madame B.* (2013), produced with Michelle Williams Gamaker, exemplifies in practice what she here theorizes. If you're curious, watch the trailer (or order the DVD) at www.miekebal.org.

In "Body Forth in Narrative," the second contribution to Part 3, Ellen J. Esrock reminds us that, like beauty, complexity is in the eye of the beholder. But how does narrative complexity affect readers? Esrock is interested in how readers respond to fiction on a somatosensory and viscerosensory level, adding the new concept of transomatization to existing notions of experientiality and simulation. Her point is that somatization – one kind of phenomenon manifests itself in another, e.g. mental illness can cause a gastrological problem – allows us to reconceptualize the relationship of imaginative mental states (reading experiences) and real-world perceptions. Instead of correspondence by means of simulation, transomatization puts the focus on "reinterpretations of the body" (p. 273). This essay opens up a whole new field for the narrative scholar interested in coming to terms with reading; what is more, it works towards closing the gap between cognitive research and phenomenological conceptions of reading as a process and activity.

Maria Poulaki ("Between Distancing and Immersion. The Body in Complex Narrative") extends the discussion of the role of the body from literature to cinema. Her essay offers a comprehensive survey of research into embodied cognition, embodied simulation and narrative immersion – if you wish to catch up with the state of the art, this is an excellent starting point. The discussion focuses on how the cinematic experience oscillates between (self-)reflexivity, which has a distancing effect on the viewer, and immersive strategies fostering absorption and narrative transportation. Challenging the conventional correlation of the former with experimental film-making and the latter with naturalist cinema, Poulaki argues convincingly that "a continuum of embodied sensations and states transverses all film experience" (p. 308). Cinema, her concluding metaphor insists, can only work its magic if "the body is not a shield between the viewer and the screen but a merger" (ibid.).

If there was an award for the most complex argument in a volume on complexity, Pia Tikka and Mauri Kaipainen's neurocinematic approach to "Intersubjectivity, Idiosyncrasy, and Narrative Deixis" would be a strong contender. Their premise that "the most important function of narrative is to be a story individuals tell to themselves, explaining how they got into the present situation, why they are there, and what is to be expected" (p. 314) will raise a few eyebrows among narratologists foregrounding the communicative or rhetorical functions of narrative, as will their broad methodological claim that "fiction films are uniquely instrumental for empirical studies of narrative cognition" (p. 316). Having said this, the authors make clear that their notion of "narrative cognition" is not intended to develop a solipsistic understanding of storytelling. Building on the metaphor of the "manuscape" (p. 315), the abstract concept of "narrative nowness" (pp. 319-322) and the notion of deixis, which is borrowed from linguistics but reinterpreted here to signify "narrative attention intersubjectively distributed between different experiencers" (p. 316), they seek to transcend what they call a "simplified conception of sender and receiver of narrative messages" (ibid.) in order to describe "a holistic embodied experience of narratives" (ibid.). Narrative complexity, they conclude, resides neither in narrative design nor in cognitive processing alone, but emerges in the dynamic interaction between both.

Finally, jazz: "not mystical," Martin E. Rosenberg contends, "but a form of cognitive rocket science" (p. 343). Conceptualizing narrativity as an emergent property and emphasizing the instabilities created through bifurcation points, Rosenberg ("Jazz as Narrative. Narrating Cognitive Processes Involved in Jazz Improvisation") clearly lays out a research agenda that links complexity theory, creativity research, and neuroscience. Where does narrative fit in? Rosenberg distinguishes between two aspects of musical storytelling, the systematic exploration and exploitation of moments of instability during (improvised) performances, and the "multiplicity" of the improvising subject, i.e. "a collective of simultaneous cognitive performances" (p. 344). This distinction paves the way for a conceptual framework which builds on concepts like the specious present or the modelling of fast and slow cognition (Varela), as well as empirical re-

search into musical cognition. This chapter had me reach instantly for *A Love Supreme*. And then, listening to Coltrane while simultaneously reading about him, and thinking in the back of my mind about how to sum up all the valuable insights offered by Rosenberg – subconsciously relating them, moreover, to the little I know about neuroscience and phenomenology – was an 'in-sync' experience not fundamentally different from the practice of musical improvisation analysed here. Which resonates with Rosenberg's conclusion that "jazz improvisation has become a convenient site where creativity might become observable" (p. 357).

Introducing the fourth and last part of the book, "Narrative Complexity and Cultural Evolution," Marina Grishakova's paper ("The Predictive Mind, Attention, and Cultural Evolution. A New Perspective on Narrative Dynamics") adopts a post-Darwinian perspective to promote a better understanding of narrative dynamics. Interestingly, this involves a more nuanced stance on evolution than the one offered in the introduction, which begins with a reference to a quantitative study claiming to have found evidence that "societies tend eventually to evolve toward complexity" (p. 1). Evolution, Grishakova holds now, "involves both simplification and complexification cycles" (p. 369); thus, "the relation between the simple and the complex does not always prove to be unidirectional" (ibid.). This doesn't necessarily contradict the introductory statement (the observer's perspective plays a crucial role) but qualifies it in a meaningful and productive manner: "protonarrative complexity," Grishakova further explains, using the example of language acquisition, "precedes and undergirds the simplicity of the discrete linguistic and other symbolic representations" (p. 370). Against this background, narrative dynamics may be understood as a "tension between sense-making behavior and the representational structures that may subsume or streamline its logic but, at the same time, channel it into increasingly complex cultural forms" (p. 381). Thus, simplicity and complexity appear as centrifugal and centripetal forces within a narrative ecology that is a constitutive feature of culture.

James Carney ("Necessary Fictions. Supernormal Cues, Complex Cognition, and the Nature of Fictional Narrative") continues the discussion of the nexus of narrative and evolution. Taking his cue from Grishakova's conception of narrative as a blend of automatic and reflexive modes of cognition, he sets out to resolve "the contradiction between the seeming evolutionary inutility of fiction and the myriad functions ascribed to it" (p. 391). Carney's conviction that readings or theories should be tested empirically if they are to be considered useful will not be universally shared by literary scholars. His sweeping dismissal of "banal" interpretive analyses of culturally lauded narratives which "typically" contain no information of "practical, strategic, or intellectual value" (p. 396) reveals, with all due respect, the limits of his reading experience rather than a truth about fiction. Likewise, a generalising statement like "mate acquisition is the only way in which reproduction can occur" (p. 401) will cause objections in the age of artificial fertilization. Such provocations aside, however, this brilliantly argued article clearly has the potential to convince sceptics that evo-

lutionary psychology should not be too easily dismissed. Where does the cultural interest in narrative come from? Carney claims that narrative texts "present two prompts for attentional engagement" (p. 392), i.e. a high cognitive load and supernormal cues (exaggerated stimuli like the images used in advertising). His explanations of these concepts and their interaction are compelling, and one can only hope that they encourage more cross-disciplinary conversation: "Mistaking a nonopportunity for an opportunity costs relatively little", Carney reminds us; "mistaking an opportunity for a nonopportunity costs a lot" (p. 394). Absolutely.

Part 4 is concluded by a contribution titled "In Hindsight. Complexity, Contingency, and Narrative Mapping." José Angel García Landa starts with the observation that the "complexity of a system can be seen as being directly proportional to the complexity of the description it requires" (p. 414). If the multiple and diverse takes on narrative represented in this volume are anything to go by, narrativity must, then, be quite complex. García Landa paints the big picture; in (very) broad strokes, he touches on a wide variety of discourses, ranging from the theory of evolution to the philosophy of science, from hermeneutics to cognitive metaphor theory, from the great chain of being to "Big History," from the Big Bang and cosmology to Einstein and the laws of physics. After so much complexity, one yearns for well-constrained narratological reductionism – and thus the hermeneutic circle continues.

3. Conclusion

This collection of articles, featuring a wide variety of diverse, yet largely complementary approaches, confirms John Pier's conclusion, in his pioneering contribution to *Emerging Vectors of Narratology* (2017) that, rather than being considered a new paradigm for narrative theory, complexity theory "can serve to highlight latent and not fully realized underlying dimensions that span a variety of existing narratological paradigms" (535).

Marina Grishakova and Maria Poulaki have done a great job curating and editing a volume which goes a long way towards uncovering such dimensions in the intersections of narrative, perception, cognition, and memory, or narrative form, content, comprehension, and function. As is to be expected in such a multidisciplinary endeavour (contributors include scholars and scientists from literary studies, media studies, psychology, cognitive science, and informatics), there are many continuities across the somewhat artificial boundaries created by the division into four parts whose delineation seems to follow pragmatic decisions rather than internal logic; but the index helps you find your favourites among the contributions, and you could do a lot worse than read them all. Such a broad range of thought-provoking research questions, models, and arguments may prove a little confusing for the aspiring newcomer. But if you are either curious or experienced enough to accept that there is no learning with-

out a learning curve, you will find plenty of inspiration here to reward your efforts.

It goes without saying that this review can only scratch the surface of what is on offer here; and summing up such a vast amount of useful information and so many generative concepts in a meaningful manner is an impossible task, so I won't even try. We can only hope that the multidisciplinarity displayed in this book encourages the contributors (and others inspired by such research) to engage in more cross-disciplinary dialogue in their future work. For instance, it would be interesting to see how Tikka and Kaipainen respond to Carney's evolutionary views on narrative functions, and to Poulaki's critique of the cinematic notion of disembodied processing (cf. p. 294), given that their concept of narrative cognition seems to suggest a complementary way of reconciling abstraction and embodiment. One could also juxtapose their notion of "narrative nowness" with Bal's concept of the "narrative Here-Now" (my feeling is that they mean similar things but approach them in radically different ways). A collaboration between discourse psychology and evolutionary psychology might yield even more nuanced accounts of narrative comprehension. With reference to the volume's title and the contexts it evokes, it would be revealing to see the contributors relate their individual approaches to the two strands of complexity theory distinguished by Ryan. Furthermore, it remains to be seen how body-oriented accounts of aesthetic experience and experientiality relate to the more conventional communicative and rhetorical approaches which still dominate literary narratology. Finally, the volume's juxtaposition of theoretical and empirical approaches calls for a new debate on methodology, exploring the potentials and limits of experiencing, abstraction, testing, and counting in a systematic manner.

Paving the way for such conversations, which I am sure will be continued at future conferences and in subsequent publications, is the first main achievement of this volume, which truly represents more than the sum of its individual contributions. I wouldn't be surprised to see many PhD dissertations inspired by the questions raised here, and – as many papers appear to have emerged from ongoing research projects – we can also look forward to reading more from the contributors themselves. The second main achievement of this tour-de-force is the momentum it creates for cross-disciplinary narrative research as an increasingly complex field – *Narrative Complexity,* with its many variants of "beehive narratology," is a significant step towards a narrative theory enriched by cutting-edge genre theory, media studies, phenomenology, complexity theory, and psychology. Get it before the next lockdown, and you'll never feel bored. Highly recommended.

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Prof. Dr. Roy Sommer
University of Wuppertal
Gauss Str 20
42119 Wuppertal
Germany
E-mail: rsommer@uni-wuppertal.de
URL: www.storysharing.uni-wuppertal.de

How to cite this article:
Sommer, Roy: "Beehive Narratology? Why Narrative Research should not Ignore Complexity Theory [Review of: Marina Grishakova / Maria Poulaki (eds.): *Narrative Complexity. Cognition, Embodiment, Evolution*. Lincoln, NE 2019]." In: *DIEGESIS. Interdisciplinary E-Journal for Narrative Research / Interdisziplinäres E-Journal für Erzählforschung* 9.2 (2020). 148-157.
URN: urn:nbn:de:hbz:468-20201201-103158-0
URL: https://www.diegesis.uni-wuppertal.de/index.php/diegesis/article/download/395/597