

## **Cognitive Affordances, Aesthetic Effects and Social Functions : A Systemic Approach to Narrative Studies**

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### **ABSTRACT**

This paper argues for the adoption of systems theory as a key for the interdisciplinary integration of concepts and theories dealing with the study of narrative. The focus is on a possible solution for the correlation of discursive forms to cognitive, aesthetic, and social functions of narrative, in the context of biographical research. The role of the body and the presence of others are conceived as necessary conditions for the emergence of the narrative experience. Bringing together narratology and biographical research, emphasis is given to the epistemological coherence of interdisciplinary dialogue, with the aim to foster a fruitful collaboration for the development of a broad systemic theory of narrative. At last, I sketch a dynamic system model for the interdisciplinary theorization of narrative research.

**Key words** : narrative, systems theory, interdisciplinarity, complexity, enaction

*An aesthetic question: How are you related to this creature?  
What pattern connects you to it?(Bateson, 1979: 9).*

Nowadays the study of narrative is undertaken by various disciplines but unfortunately there is little dialogue between the different research areas interested in narrative. My aim in this article is to show a possible way to foster this dialogue. I use the term narrative studies—instead of narrative theory or narrative research—in an attempt to overcome disciplinary barriers making room for all the possible contributions to the study of the forms and functions of narrative in different contexts.

Coming from a field different from those of the usual authors and readers of this journal, I think that for a more fruitful conversation I can begin from a territory more familiar for this context. I will pick one article recently published in the CBLI journal and I will do what I learned to do at my best: I'm a literary scholar, so I will "listen" the text and I will put myself in dialogue with it. Laura Formenti's article "Complexity in learning biographies: a dialogical approach" is a good starting point because there is an echo of other authoritative voices in the field of learning and biographical studies, and also an original proposal for the

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Received : 30 September 2017 / Accepted : 17 November 2017

Published : 31 December 2017

This article is published with open access at <http://www.cbll.org>

use of a systemic approach to the study of learning biographies. Moreover, I know we have a common interest for complexity and systems theory, which is the framework that informs my research.

Before discussing Formenti's proposal, let me clarify what it means to conceive of narrative as a complex system. A system can be defined as: "a family of relationships among the members acting as a whole" (Bánáthy, 1997). The focus is on the behavior and relationships of some elements, not on the elements' properties. Basic axioms of Systems Theory are:

- epistemic: A system is identified and foregrounded in an environment through the observer's choice of a suitable cognitive model at a specific level of description of a phenomenon. That is, 'system' is a concept we use to describe a piece of the world;
- systems are entities/wholes possessing properties which their elements do not possess;
- systems are established and "exist" through the continuous interaction of their elements;
- a complex system is characterized by non-linear interactions between the constituents.

In brief, we can call something 'a system' when we see a whole identified by a constitutive property that is not present in any of the elements we are observing, it is rather emerging from the interaction of its elements.

How can we apply this to the study of narrative? Adopting a systemic view, a narrative system is composed of some interacting elements, whose interplay brings about a new property of the system, i.e. narrativity. Thus, the aim of narrative theory is: (i) to describe how the system's elements are in continuous interaction (feedback loops); (ii) to specify what kind of interaction is typical of narrative. We cannot identify a recurrent structure but only describe recurrent forms of dynamic organization and predict some behavioral patterns of the system.

The point is that looking at a system we focus on the relations and interdependence between individual elements, clusters of elements, and processes that enable a system to function. The physicist Erwin Schrödinger once said that "The best possible knowledge of a whole does not necessarily include the best possible knowledge of all its parts, even though they may be entirely separate and therefore virtually capable of being 'best possibly known'" (Schrödinger & Born, 1935: 555). This means that in order to know what a system is we should look at the processes and not just at the elements; we should look for patterns connecting data, information and knowledge.

Let's now have a look at Formenti's essay. Formenti claims that "biographical research needs to go further [from] the ready-to-go story, focused on the teller as a self-standing individual" (Formenti, 2016: 19), because "To understand learning, and especially adult learning, we need to acknowledge that conversations are the locus where it constantly happens" (20). In the social sciences, a dialogical (or aesthetic, in Bateson's terms) approach is very often homologous to a systemic approach, as it is in this case. This an excellent starting point to account for the complex dynamics of narrative, but I want to present a model that can help further biographical research to study the aesthetic (bodily, emotional and enacted) dimension of the learning experience, and how the aesthetic dimension affects the social and cognitive ones, all three being interdependent. This can be done by integrating work from other disciplines that are specialized in research on aesthetic experiences.

Another interesting remark by Formenti is that:

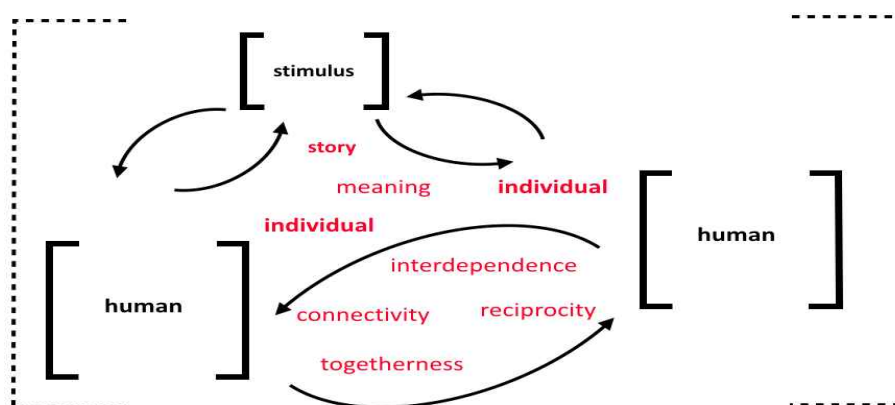
*Learning [...] is an ongoing process emerging from life itself. The same works for narrating, as a specific form of (inter)action that develops meaning and is used by humans to build togetherness, reciprocity, connectivity, interdependence in their relations. The focus here is not on the individual, neither on the story, but on the process of co-evolution sustained by the act of narrating(22; emphasis mine).*

The central claim is that neither the individual nor the story are given entities, rather they are emerging from the continuous interactions between the elements of the system we are observing.

The suggestion is to conceive both individuals and stories as complex systems, as wholes emerging from a 'specific form of (inter)action' that we call 'narrating'. But what kind of interaction is this? What is its specificity? A definition of narrative is needed in order to answer these questions. The context in which this approach is being developed is that of learning research, thus, accordingly, the answer is given focusing on the effects that language has on people:

- narrating is 'a specific form of (inter)action that develops meaning' (cognitive affordance).  
And an additional specification is given with respect to the functions of language:
- narrating 'is used by humans to build togetherness, reciprocity, connectivity, interdependence in their relations' (social functions).

This is perfectly coherent with the research context and its goals: that is, understanding the learning process and the transformation of individuals. Accordingly, the specificity of the 'narrating' system is defined focusing mainly on one kind of element of the system: humans. Actually, it seems like at least two interacting humans are needed in order to have a narrating system, since these effects can only occur in a social situation [Figure 1]. This is interesting, and I wonder whether we can then talk about narrating as a cognitive mode without being a form of social cognition, that is as a way of grasping reality without necessarily addressing someone else. But this is a question for philosophers and cognitive scientists (Varela, Thompson & Rosch, 1991; De Jaegher & Di Paolo, 2008; Hutto, 2008)



[Figure 1] A dynamic systemic model of Laura Formenti's dialogical approach. The 'narrating system' is delimited by the dashed square brackets.

Having outlined a hypothesis, to continue our theorization, we have to ask another question: are there other forms of linguistic interactions that develop meaning and are used by humans to build togetherness, reciprocity, connectivity, interdependence in their relations? If the answer is “no”, then we have a very good definition of narrative. An investigation along this line is beyond the scope of my article, thus I will assume that this is a satisfactory narrative theory. What I want to highlight, is that this approach is focusing on interpersonal relations only. Wouldn't it be interesting to explore how language is used to achieve these effects? What linguistic, stylistic, rhetorical choices are we making when we use language in this way, that is when we are narrating?

What I am suggesting is to change for a moment the scope of our observation, shifting from the individuals to the aesthetic – i.e., sensorial (verbal, visual, etc.) – stimulus that is orienting the interaction between humans, so that we can better focus on the narrative strategies employed. There have been attempts to propose interdisciplinary frameworks for biographical research, like, for instance, Linden West's psycho-social approach (2014), which is “composing the apparent polarity between subjectivities and structures” (Formenti, 2016: 19). My suggestion is to do something similar trying to integrate psychological and social approaches with literary-linguistic approaches. I look forward to this for two reasons:

1. Because understanding the forms that intervene in the generation of some effects on the individuals can lead to a deeper comprehension of the effects themselves and of what aspects of the individual are affected (cognitive, aesthetic, social dimension).
2. For the sake of a more complete systemic theory of narrative.

I will leave the second point for another discussion and focus on the first reason. The challenge is: how can we do this? How can we link discursive forms to the effects experienced by individuals? I will be straightforward: there are no direct links between forms and effects. There are only systemic relations that can be observed in order to spot some correlations (Sternberg, 1982; Pianzola, 2018).

I am quite sure that many achievements of narratology could be fruitfully applied in biographical research – for instance, the reflection around concepts like point of view, focalization, experientiality (Hühn et al., 2013). However, we cannot just import a concept from another theory and apply it to a theory with different scope without considering that a change of the systemic relations consequently changes its meaning (Pianzola, 2018). Another obstacle is that the basic concepts and tools of narratology have been mainly developed within theories that are concerned with the properties, entities, and relations of the objects they are observing, that is literary texts or movies. This means that very often narratives are not treated as complex systems constituted by interdependent components, in contrast to what Formenti and me are arguing. Let me clarify why this is a drawback by briefly commenting two narrative theories.

One of the most common definition is:

Def. 1. Narrative is *the representation of an event or a series of events* (Abbott, 2002: 12).

The biggest problem here is that this definition is very general and does not identify any

specific feature of all and only narratives. Even a philosophical argument can represent events: "I am talking in Busan, Busan is in South Korea, therefore I'm talking in South Korea". In this example there is at least one event (my 'talking in Busan' and my 'talking in South Korea'). Is this a narrative? According to the given definition, it is. But I think that the fact of presenting these events in the form of a well-known logical structure (a syllogism) shifts our attention from the representation of the events to the logical pattern connecting them, i.e. the discursive form is probably bringing us to focus on the soundness of the argument. We will be probably checking whether the connection between the three sentences is logically correct, rather than focusing on what is represented. Nevertheless, this is an argumentative text which represents one or two events. Therefore, defining narrative as "the representation of an event or a series of events" is of little use. I would like to underlie how this example shows what I have argued before, namely that observing the forms of the aesthetic stimulus can lead to a deeper comprehension of the effects: in this case, the more you give importance to the logical pattern, the more you perceive this discourse as an argument. Thus, the textual form is shaping your perception. On the contrary, if you notice that the topic of this syllogism is quite awkward, you might experience suspense for the continuation of the discourse, so to discover why I am telling this—and suspense is an effect typically generated by narratives, not so much by logical arguments (Sternberg, 1992). So, the more you give attention to a form that you perceive, the more you are led to experience a certain effect. And the effects you perceive as stronger are in turn influencing to what forms you are paying attention. The context is shaping both the effects and your perception of the aesthetic forms. Everything is connected and interdependent.

If you are wondering why it is important to define what narrative is, or, better, why it is important for someone working in the social sciences, let me say that I think it is important because definitions have the function of outlining the boundaries of the phenomena we observe, and they determine what aspects of a certain phenomenon have to be included within a certain field of research. So, if you are talking about narrative in your research, you are already making assumptions about what narrative is. A definition is just making explicit the idea which is at the basis of your research, and it can help guiding the research itself.

Since Abbott's definition is not working, let's have a quick look at another kind of definition:

Def. 2. *A narrative (Fr. récit; Ger. Erzählung) is a representation of a possible world in a linguistic and/or visual medium, at whose centre there are one or several protagonists of an anthropomorphic nature who are existentially anchored in a temporal and spatial sense and who (mostly) perform goal-directed actions (action and plot structure) (Fludernik, 2009: 6).*

Even in this case we can see a definition based on the properties of an artefact or an act of storytelling. And again, my syllogism can be qualified as 'narrative' by this definition, since I am an anthropomorphic protagonist existentially anchored in a temporal and spatial sense and performing goal-directed actions, although the goal of my argument is quite odd.

The underlying problem of this kind of theories is that they try to deal with narrative as if it were an isolated system, independent from the context in which the narrative act is taking place. In brief, I think that all definitions of narrative that do not take into account the coupling with the environment (Maturana & Varela, 1980) are unsatisfactory, because they are

ignoring a constitutive part of the system they are observing. Since no system exist in isolation, what we need is a framework that allows to potentially link the elements of the observed system (in this case, the aesthetic stimulus) to the environment, in order to understand how these relations are affecting the system. My suggestion is that systems theory is the guideline we need to construct that framework. I will try to show how to use systems theory by discussing an example taken from the novel *Blindness* by the Portuguese author José Saramago:

*Some had covered their heads with a blanket, as if anxious that a pitch-black darkness, a real one, might extinguish once and for all the dim suns that their eyes had become. The three lamps suspended from the high ceiling, out of arm's reach, cast a dull, yellowish light over the beds, a light incapable of even creating shadows (1999: 70-71).*

This is the comment by a literary scholar who is adopting an enactivist – and, thus, systemic – approach to narrative:

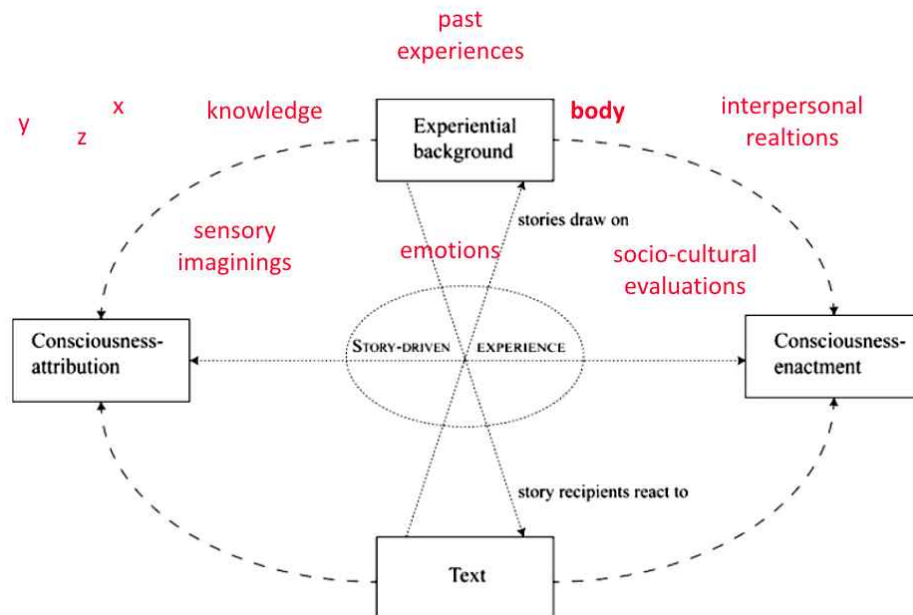
*Saramago's description invites readers to imagine visually scanning the dormitory by drawing their attention to the heads of the internees, to the blankets that cover some of the heads, then (with an upward movement) to the lamps that hang from the ceiling. Finally, with a downward movement, following the light that falls from the lamps, the reader's attention comes to rest on the beds. Thus, readers of this passage run an embodied simulation of this circular motion, enacting the movements that would be required to perceive a similar scene by reactivating past experiential traces (Caracciolo, 2014: 102).*

And

*As the phrase "out of arm's reach" implies, this spatial description is tailored to the body and sensory systems of a human being, so that, even if we could train a machine to understand the linguistic meaning of the text, it would not be able to make sense of it. It would miss the experiential "feel," and fail to see why this is a spatial description as opposed, for instance, to a list. (101)*

This is a spatial description following a temporal pattern; in reading it the enaction of a personal experience in time emerges. I think this is an example of how an element external to the text, the body, is constitutive of narrative. If the scope of our observation is the text only (the stimulus), then we cannot legitimately talk about an experiential feel or a pattern in time. It is only when we extend the scope of our observation so to include the reader and her body that we can grasp and describe the effects that this stimulus can generate. It is the continuous interaction of the elements of the whole system that leads to the emergence of the narrative pattern. And studying the dynamic relations between such elements we can better describe the organization of the narrating system and the effects that emerge.

[Figure 2] depicts the model sketched by Caracciolo to represent this process.



[Figure 2] The network of experientiality; the story-driven experience arises from the double tension between recipients' experiential background and textual design (vertical axis), attributing a consciousness to a character and enacting it in a first-person way (horizontal axis). (Caracciolo, 2014: 50; modified)

We should think of experientiality as a kind of network that involves, minimally, the recipient of a narrative, his or her experiential background, and the expressive strategies adopted by the author. At the root of experientiality is, then, the tension between the textual design and the recipient's experiential background" (Caracciolo, 2014: 49). Experientiality is the main feature of narrative, and it "refers to the capacity of a story to tap into—and have a feedback effect on—the background of different recipients" (50). "If a story draws on recipients' background in a way that prompts them to react very strongly (through sensory imaginings, emotions, and socio-cultural evaluations), then the story will score high on a scale of experientiality (51).

In a systemic view the body is one of the interdependent elements from whose interaction narrative is emerging. But how to introduce the body as a constitutive element of narrative? The issue is precisely how to deal with the body – and other contextual elements – as a constituent of narrative, it is not just a matter of including the body in our narrative theory. Again, in a systemic view, specifying the kinds of relations at play is more important than describing the properties of the entities in the system. To my knowledge, the most convincing proposal in this regard is Marco Caracciolo's enactivist narrative theory, which draws on his expertise in cognitive literary studies. In the domains of education and social sciences, Laura Formenti's dialogical approach is a very interesting proposal, in which narrative is conceived as an emergent complex phenomenon. As also noted by Caracciolo, even a machine could understand the meaning of an act of narrating, but togetherness, reciprocity, connectivity cannot be experienced without a body.

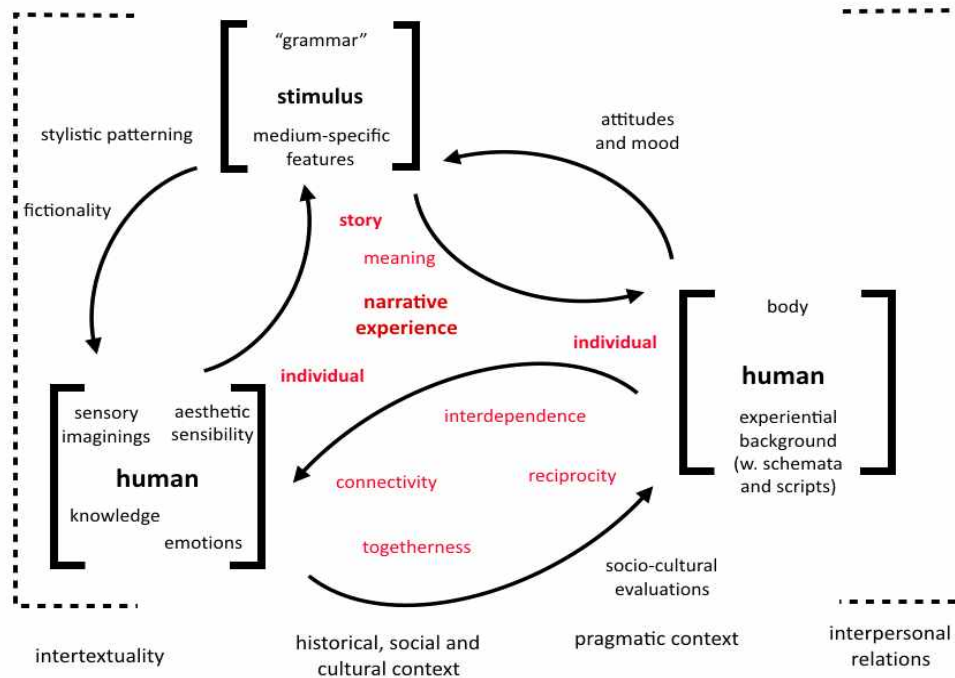
We are now back to the effects that narrating has on humans. Here is a statement that I find very fascinating:

*An individual undergoes to continuous ontogenetic structural drift in co-evolution with the environment, that is material, symbolic and social. A learning biography is a way to tell the story of this ontogenesis, but also to enact or perform it. By narrating, the individual enacts his/her own form, his/her Own Metaphor (Formenti, 2016: 24).*

Narrative is something expanding beyond the borders of written text or oral speech, it is not just words on paper or screen, neither it is an oral act of storytelling, it is an actual process of enaction. This way of conceiving the term learning biography is really striking, because it brings together multiple dimensions: the material, symbolic and social interaction with the environment; the ontogenetic transformation of an individual (an individual whose boundaries are never clearly identifiable, but rather fading or being marked by the interaction with the environment); the learning process; and the continuously changing enaction of the whole living process. In this perspective, I guess the aesthetic forms – like the perception of a spatial description rather than a list of objects – that are shaping our transformations are emerging somewhere across the material and symbolic dimensions. Yes, even forms are “emerging”, not only functions, because they cannot be reified as packaged entities, “there are no forms except in terms of functions” (Sternberg, 2011: 42). All elements of the narrative system are interdependent, and even how we perceive the materiality of stories is influenced by other cultural or social factors.

To conclude, I would like to bring together Formenti’s dialogical approach and Caracciolo’s enactivist approach in a single model (Figure 3), with some additional elements drawn from my reflection on narrative in different media. I am including the aspects I already mentioned, like the body and the pragmatic context, plus some others, like cognitive schemata and scripts, or medium-specific feature – for instance, the possibility to represent thought in oral or written narratives, which is harder to do with a video. The main point of this model is that there are no aesthetic forms that can qualify something as a narrative. The narrative experience emerges from the interaction of one or more persons with the environment and in contact with some kind of stimulus. Of course, in order to define the specificity of narrating we still need to identify what pattern is characteristic of all and only narratives. Formenti claims this pattern is “as a specific form of (inter)action that develops meaning and is used by humans to build togetherness, reciprocity, connectivity, interdependence in their relations” (2016: 22). We can dispute whether this is the right choice or not, but, as I tried to show, the epistemology of her definition is coherent with her systemic view of learning. And I think that, if someone is working on the effects and transformations that narratives have on people, a systemic approach is very helpful to avoid generalizations and simplifications that can be detrimental to your research.





[Figure 3] A model of narrative as a complex system.

I marked in red the effects that Formenti links to the emergence of an act of narrating. In black, I listed some variables that intervene in our interactions with artefacts, words or other stimuli that we commonly call “narratives”. For instance, as I have shown, Caracciolo claims that the “experiential background” – that is, the experiences that we lived in the past and that now constitute our cognitive affordances and patterns of enaction (Caracciolo, 2014) – are crucial to experience some words as a narrative, rather than as a description. Likewise, our ability to perceive some kind of “stylistic patterning” – like a rhythm in the sequence of words, or the famous “once upon a time” incipit – plays a role in our understanding, interpretation of, and emotional response to a text talking about the obstacles and dangers surrounding a castle. Likely, we would not think of it as a dissertation about military strategy, but as a fairy tale.

Many issues are still to be examined more in depth, like, for instance, whether this model is suitable for literary narratives, a case in which a human is apparently only interacting with a stimulus (the text) and not with another human. But I think this is an oversimplification of literary dynamics, since – among other reasons (Pianzola, 2015) – we make assumptions about the author and they always influence the reception of literature (Altes, 2014). On the other hand, when studying someone’s biography it could be very important to consider how people fictionalize some parts of their lives, or how they use or do not use certain words or metaphors in relation to episodes or persons they met.

To sum up, I tried to enrich Formenti’s model, indicating how biographical research could look at narratological and linguistic research to have additional instruments for analysis. However, this model is inevitably incomplete, since there is an infinite number of variables that intervene in every act of narrating. My wish is that this could be integrated by insights from an interdisciplinary collaboration between the social, cognitive and human sciences.

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