

2. Fiction and Social Cognition

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In the Beginning Was the Stories

The development of language in homo sapiens has allowed for an exponential growth in our ability to systematize knowledge, accumulate it and transmit it from one generation to the next, thus providing great evolutionary advantages to our species. Language is however not to be regarded as merely a code that we use for such purposes. It is a constitutive and integral part of who we are. Researchers have suggested that social communication, which for homo sapiens is tantamount to language, and particularly complex language, may have developed as a response to an evolutionary pressure for the development of more sophisticated social cognition to sustain sociability and social functioning. On the other hand, it also acknowledged that once in place, language may have allowed for the development of, and further scaffolded, increasingly sophisticated social cognition (Oesch & Dunbar, 2017).

Anthropological and cognitive science theories suggest, moreover, that language, and especially stories, have made a fundamental contribution to the development of our social organization, helping us to create cohesion in the small groups in which our ancestors lived as early as a million years ago. This had important repercussions on our capacity to cooperate, probably contributing significantly to our hypersociality (Tomasello, 2014).

One of the key factors in the development of such hyper-sociality is the discovery and especially the consequences of our ancestors acquiring

control of fire, the latter dating approximatively 300,000 years ago. Being able to light a fire led to great developments. For example, it allowed us to cook the meat of captured animals, with important effects on our morphology, particularly that of our brains, due to improvements in the efficiency in metabolizing (Wrangham, 2009). For our present concerns, however, an important development is the fact that after sunset, gathered around the hearth on a dark planet (and perhaps inspired by a starry sky), our ancestors began to tell stories to each other. These are the reflections made of anthropologist Polly Wiessner, based on her observations of the life of the African Ju'hoan (ung) tribe: "Nighttime activities reduce the tensions of the day through singing, dancing, religious ceremonies, and compelling stories, often about familiar people. Such stories describe the functioning of entire institutions in a small-scale society with little formal teaching. Nightly discourses play an important role in evoking higher orders of theory of mind through imagination, conveying the attributes of people within broad networks (virtual communities) as well as the "big picture" of cultural institutions that generate regularities of behavior, cooperation, and trust at the regional level." (Wiessner, 2014)

Stories and Social Cognition

The concept of Theory of Mind, mentioned by Wiessner, is commonly defined in the psychological sciences as the ability to infer others' mental processes, their emotions, beliefs and aspirations, their thoughts, doubts, desires. In other words, to understand the mind of others. This ability, not entirely absent in other primates and perhaps other mammals, certainly finds its most advanced form in homo sapiens. In fact, the work I briefly referred to above concerning the relationship between language and social cognition (Oesch & Dunbar, 2017), has focused primarily on Theory of Mind as an example of social cognition. Such a capacity is key in making our hypersociality possible, and, in turn, the pressure to maintain and develop such hypersociality pushes us to refine our Theory of Mind. Wiessner, however, advances a more precise hypothesis about the role of narrative, of stories. Is she right? Does reading stories teach us to read the minds of others? It would seem so.

A couple of decades ago, Raymond Mar, Keith Oatley and their colleagues investigated the relationship between engagement with stories, specifically, fiction, and Theory of Mind (Mar et al., 2006). Exposure to fiction was measured using an adapted version of the Author Recognition

Test, which consists of a list of names of fiction and nonfiction authors. Participants were asked to select the names of authors they knew, then allowing the researchers to calculate, for each participant, an exposure score to fiction and nonfiction. Next, participants performed a series of tests, including the Reading the Mind in the Eyes (RMET; Baron-Cohen et al., 2001). The RMET, among the most widely used Theory of Mind measures, allows to assess accuracy in inferring others' mental states by observing only the eye region. Results showed that while exposure to non-fiction did not correlate with performance on the RMET, exposure to fiction did: the more exposure, the greater the performance on the RMET. These results can be interpreted as evidence that fiction is a simulation of social life: readers are transported into the imaginary world, identify with the characters, feel their emotions, and imagine their thoughts and desires. In this way, they hone their mind-reading skills (Oatley, 1999). Recent research has, however, qualified this conclusion and proposed a different account of the effect of fiction on mind reading.

Types of Fiction, Theory of Mind, Theory of Society

A decade ago, I conducted with my then-graduate student, David Kidd, a series of experiments aimed at more directly testing the potential causal effect of reading fiction on ToM (Kidd & Castano, 2013). Participants were asked to read one among many excerpts from novels or short stories previously classified as literary or popular fiction. Assignment to the specific reading was of course random. Next, the participants completed the RMET and other tasks meant to measure Theory of Mind. Results showed only those who had read literary fiction scored higher on ToM test; those who had read popular fiction scored similarly to participants who had read nothing or who had read nonfiction. This result has been replicated using either the exact same methodology (e.g., Kidd & Castano, 2019; Kidd et al., 2016; van Kuijk et al., 2018) or conceptually similar ones (Black & Barnes, 2015; Castano, 2021; Pino & Mazza, 2016; Schwerin & Lenhart, 2022). Some studies did not replicate this finding (e.g., Panero et al., 2016), but their methodology has been questioned (Kidd & Castano, 2017a). Reviews of the experimental work on the effects of brief exposure to fiction on ToM have concluded that the effect of reading fiction on ToM is reliable, if small, but they have not focused on the specific distinction between literary and popular fiction (e.g., Dodell-Feder & Tamir, 2018; Quinlan et al., 2022).

The differential impact of exposure to literary versus popular fiction is also supported by correlational research. As mentioned, the relation between exposure to fiction and ToM was first investigated using the Author Recognition Test. In studies such as the pioneer one by Mar et al. (2006), a score reflecting the degree of exposure to fiction is given to each participant, based on his or her responses to the Author Recognition Test. In more recent studies, however, instead of a single score, two scores are calculated: one for exposure to popular fiction and one for exposure to literary fiction (Kidd & Castano, 2017b). Confirming the results obtained with the experimental methodology, these studies revealed that while exposure to popular fiction is not associated with performance on Theory of Mind tasks, exposure to literary fiction is: the greater the exposure to literary fiction, the better Theory of Mind (see also Castano et al., 2020; 2021; Das & Vasudevan, 2022).

With the important caveat of what type of fiction is under consideration, research findings overall support the conjecture by Wiessner (2014). Theory of Mind, however, is only one of the aspects mentioned by Wiessner in her analysis of the impact of storytelling on human societies. Do stories do other things as well? Do they also serve to “convey the attributes of people within broad networks (virtual communities) as well as the ‘general framework’ of cultural institutions...?” A tentative answer to this question is, yes: In addition to Theory of Mind, reading narrative fiction may also impact on our Theory of Society. Theory of Society (ToS) can be defined as a special purpose modular capacity to understand others in terms of culturally transmitted information about group membership, for example, which social groups exist in one’s culture and which stereotypes adhere to these groups (Hirschfeld et al., 2007; p. 451; Hirschfeld, 2006). Contrary to ToM, the construct of ToS has elicited, strictly speaking, virtually no empirical research. Yet, I would argue that this broad construct covers a host of social psychological constructs, among which are psychological essentialism, the belief that some categories possess an underlying essence common to all members and causally responsible for their typical attributes and behaviors (see Medin & Atran, 2004), and attributional complexity, the tendency to see others’ behavior as resulting from complex interactions of internal and external causes, attempt to integrate seemingly inconsistent information about others, and reflect on their own insight into others’ behavior (Fletcher et al., 1986). Both of these constructs have been studied in relation to fiction exposure, with findings showing that exposure to literary fiction is associated with

lower psychological essentialism and higher attributional complexity. Exposure to popular fiction, on the other hand, is associated with lower attributional complexity and, to a lesser extent, greater psychological essentialism (Castano et al., 2020; 2021; see also Buttrick et al., 2022).

Against a hierarchy of fiction

If we look at the two sets of findings, which I have organized, primarily for aesthetics purposes, into Theory of Mind vs. Theory of Society, a parallel emerge with a distinction that is well-known to social psychologists, namely between individuated- vs. category-based perception (e.g., Brewer, 1988; Fiske & Neuberg, 1990), as well as the most recently proposed distinction in the literature on morality, between individuating vs. binding moral foundations (Haidt, 2002). Some of the socio-cognitive processes and cognitive styles discussed above, such as attributing an essence to social categories, facilitate the binding among humans that is functional to forming and maintaining social groups by allowing us to imagine (Anderson, 1983), constitute and maintain social groups, notably through the process of self and social categorization (Turner et al., 1987) and the development of social identities (Tajfel, 1981). Other socio-cognitive processes and cognitive styles, such as the enhanced attention and accuracy in inferring people's thoughts and feelings, as well as interpreting the complexity of human affairs and rejecting essentialistic views of social categories, are individuating: They foster a view of the world in terms of unique individuals, as opposed to social groups. The research reviewed here seems thus to indicate that literary and popular fiction foster, primarily, individuating versus binding processes, respectively. Social psychology has traditionally viewed the former processes as providing the socio-cognitive substrate for the enactment of ethical, just behavior; and the latter, conceived either as cognitive shortcuts or as processes motivated by the need to maintain collective self-esteem and the social order, as underlying negative social behavior such as stereotyping and prejudice. If the former are fostered by literary, and the latter by popular, fiction, we might be tempted to conclude in favor of the hierarchy of fiction, which parallels the well-known distinction between highbrow and lowbrow fiction, respectively. This may be misguided. For a human society to have enough cohesion to function but also continue to evolve, the centripetal, aggregating action of popular fiction is just as important as the disruptive, centrifugal action of literary fiction. The need for an equi-

librium at the societal level finds also a parallel at the intra-individual level, with research showing the importance of a balance between a need for uniqueness and inclusion for psychological equanimity (Brewer, 1991).

In favor of a taxonomy of fiction

It is not uncommon in the social sciences, and even more so in society at large, to deny differences in the process of arguing for equality. Having just argued against a hierarchy of fiction, should I also deny that they differ? I will do the opposite.

The debate about the nature of a text, and thus also of the nature of fiction in particular, has a long history in disciplines such as literary studies, semiotics and linguistics. When I first started this line of inquiry, I was influenced primarily by Roland Barthes, whom on the one hand distinguished between writerly and readerly fiction (Kidd & Castano, 2013), and, on the other, argued for the need to shift the attention away from characteristics of the text, and redirect such attention onto the readers and their subjective experience. This view is known as the reader-response approach to literature; an approach which unifies scholars who stress the role of the reader in creating meaning through their reading of the text (e.g. Bleich, 1975, 1978; Holland, 1968, 1973, 1975; Iser, 1974, 1978). The reader-response approach developed as a criticism of earlier formalists theories in literary studies, which largely (and purposely) ignore factors such as cultural contexts, the intentions of the author of the text, and even the content of the text, and focus instead on the text itself (Richter, 2007; Tyson, 1999; Habib, 2011). Readers play an active role in constructing meaning (e.g. Bruner, 1987; Gerrig, 1993; Sharma, 2020; Miall & Kuiken, 1994), individual differences moderate readers' interest in and experience of the text (e.g. Rain & Mar, 2021), and the taxonomy of text, and particularly fiction, is influenced by historical, cultural and broad socio-political factors (McGregor, 1997; Gans, 1974; Ross, 1989; Walter, 1968). Yet, I would argue that if exposure to literary vs. popular fiction has differential effects on our social cognition, some difference must exist between the two texts; and since they are texts, the difference must reside in the language they use. A first support of this idea comes from a study comparing a corpus of English-language literary and popular fiction from the last two decade, in which we found that literary fiction has greater lexical and syntax complexity than popular fiction (Castano et al., 2024). This finding is consistent with the claim that literary fiction is

more complex than popular fiction (Kidd & Castano, 2013) and dovetails with evidence of a relationship between syntax complexity and Theory of Mind (Oesch & Dunbar, 2017).

A conclusive thought

In this brief chapter I have summarized ideas and research findings that my former students, colleagues and collaborators have developed and gathered over the last decade. In a funny turn of events, some 20 years after she had been my professor, and precisely 10 years ago, I had invited Anne Maass as a visiting professor in my department. At that time, many of the ideas I discussed here, were in an embryonic state. Anne being among the few social psychologists who had paid attention to language since the 1980s (Maass et al., 1989; 1996), we brainstormed about the language of popular and literary fiction, and she was instrumental in helping us formulating the hypothesis that one of the ways in which literary fiction may elicit the effects that we were beginning to observe, was through the use of more concrete language. It did take me 10 years to get around to test this hypothesis, but as I finish this chapter I will start to write an article in which data are presented supporting precisely such a conjecture.

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