The Function of Stories

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Author's Note: The work presented here constituted very early research for Sarah Dillon and Claire Craig's book *Storylistening: Narrative Evidence and Public Reasoning* (London: Routledge, forthcoming 2021). The content has been corrected, expanded and developed in the preparation of the book. Interested readers should refer to *Storylistening* for a more recent and thorough account of the function of stories.

Abstract:

This paper draws from research in cognitive psychology, sociology, philosophy, evolutionary biology, and computer science in order to explore a trans-disciplinary taxonomy of the proposed functions of stories, beyond that of entertainment. It establishes that story and narrative can be used interchangeably, with the latter the more 'academic' or 'serious' denotation. It employs Jerome Bruner's differentiation between two modes of cognitive functioning - the paradigmatic and the narrative – in order to interrogate the functions of stories within the latter mode. Six proposed functions of stories are then explored: communication; individual and collective identity formation; the exercise of empathy and theory-of-mind; development of social knowledge, and repository and transmission of tacit socio-cultural knowledge; simulation and modelling in order to guide decision-making; and persuasion, especially belief change. The latter five categories depend upon an understanding of stories as constitutive, rather than merely representational.

> *'Although narrative is entertaining, its function is not one of mere entertainment.'*
> *(Mar and Oatley 2008: 187)*

Imagine the following exchange:

Sam: Let me tell you a story.
Ella: Why?
Sam: What do you mean, "why"?
Ella: I mean why, why are you going to tell me a story?
Sam: Err…

Sam is right to be surprised and confused by Ella's response. Stories are ubiquitous – we interact with them daily, we consume them, we produce them – but we rarely stop and ask, 'why?'. We rarely reflect explicitly on the functions and effects of stories. If we do, it is perhaps most often in relation to emotion – did a story entertain us, scare us, bore us, make us laugh out loud? But the functions and effects of stories extend far beyond the bounds of entertainment and emotion, and we need to understand those functions and effects if we are to take stories, and their impacts, seriously. Researchers across diverse academic disciplines have made examining the function of stories their business. This paper draws from research in cognitive psychology, sociology, philosophy, evolutionary biology, and computer science in order to explore a trans-disciplinary taxonomy of the proposed functions of stories. In something of a wilful move, given their proximity to the subject matter at hand, arguments about the function and effect of stories presented within literature and literary studies are not, on the whole, incorporated here at present. This is an experimental disqualification that may well be reversed.

Before proceeding to examine the taxonomy, it is useful to address the question of definitions. Story is the more widespread and colloquial name for a series of events. Within the field of narratology, however, narrative is used to describe the overall phenomenon, with story denoting a narrative's content (Chatman 1980; Genette 1980). Beyond this technical usage, 'story' and 'narrative' essentially denote the same thing and their use is interchangeable. 'Story' and 'narrative' are also not used in any consistently distinguished way with respect to either fact or fiction. There are children's stories (fiction) and news stories (fact); there are scientific narratives (fact) and literary narratives (fiction). There are the stories we tell each other about our days, and the narratives via which we construct a sense of self, with both of these a complex admixture of fact and fiction. Where there does seem to be consistency is in a preference for the use of 'narrative' over 'story' in contexts where there is a desire to take stories seriously. This might be understood as a lexical sleight of hand whereby the subject matter is elevated but not in fact changed. We thereby treat 'story' and 'narrative' as synonymous.

Our preference for 'story' is an intellectual one – we are interested in what one is required to consider within this category that renaming it as 'narrative' enables one to automatically exclude – but it is also a provocation. As Margaret Somers notes, 'to consolidate a cohesive self-identity and collective project every knowledge discipline needs an "epistemological other"' (Somers 1994: 613). Narrative has invariably fulfilled that role. Whilst this is now changing with, as Somers notes, narrative now 'being appropriated into the epistemological frameworks of a spectrum of other disciplines' (Somers 1994: 613), we wonder if, and why, an appropriation of 'stories' might prove more challenging.

Whilst there is significant work offering definitions of narrative (Scholes and Kellogg 1966; Genette 1980; Mitchell 1981; Jameson 1981; G. M Wilson 2003; Lamarque 2003; Currie 2010), for the purposes of analysing the function and effects of stories we are inclined to agree with Raymond A. Mar and Keith Oatley (2008: 174) who conclude that 'the debate on what constitutes a useful categorical definition of a narrative may be a conceptual dead end'. Instead, they propose that it is perhaps more useful to attend not to how a text is structured, but to 'its content and our responses to this content' (Mar and Oatley 2008: 174). They follow Jerome Bruner (1986) and his distinction between 'two modes of cognitive functioning' (11): the paradigmatic or logico-scientific, which 'attempts to fulfil the ideal of a formal, mathematical system of description and explanation' (Bruner 1986: 12); and, the narrative mode, which 'deals in human or human-like intention and action and the vicissitudes and consequences that mark their course' (Bruner 1986: 13). Stories are therefore about the social world, and the agents that move and interact within it. Defined as such, it makes sense to understand stories and storytelling, as Brian Boyd (2009) does, as a cognitive adaptation. Stories exhibit two key signs of cognitive adaptations as defined by evolutionary biology: 'limited perceptual input yields rich conceptual output' (Boyd 2009: 189); and 'the inability to suppress a response' (Boyd 2009: 189). However, most importantly for the present purposes, 'adaptations show design for some function' (Boyd 2009: 189). What functions, then, do stories serve?

1.   Communication

From Plato (2007) to Aristotle (1996) to Shakespeare (2006) to Stendhal (2002), stories have been conceptualised as mimetic, that is, they represent reality. As such, stories function as a form of communication, conveying information about the world between social actors in it. As Boyd (2009: 176) summarises from an evolutionary biology perspective,

> *Narrative arises from the advantages of communication in social species. It benefits audiences, who can choose better what course of action to take on the basis of strategic information, and it benefits tellers, who earn credit in the social information exchange and gain in terms of attention*

and status. That combination of benefits, for the teller and the told, and the intensity of social monitoring in our species, explain why narrative has become so central to human life.

Somers' work challenges this definition of the function of stories, however, arguing that conceiving stories as merely representational consolidates perception of them as an illegitimate epistemological 'other'. Echoing a shift that has happened across other disciplines, including history, literary studies, continental philosophy and linguistics, she proposes a move from understanding stories as representational to understanding them as ontological. That is, stories are not just descriptive but constitutive. If we understand stories, as Somers (1994: 614) proposes, as 'an ontological condition of social life', we can examine what functions stories serve, beyond entertainment and communication.

2.   Identity

It is widely accepted across the humanities and the social sciences that stories play a key role in individual and collective identity formation. Through the development of a life story, individuals establish for themselves and others their present identity, how it came to be, and their projected identity in the future. Narrative identity thereby provides selves with meaning and coherence (Ricoeur 1979 and 1984; Singer 2004; McAdams and McClean 2013). Stories and storytelling also function to define collective identities, for instance that of the family (Langellier and Peterson 2004), or of a class group (Somers 1992). Media and communication studies demonstrates the way in which stories function to determine societal and individual self-perception through the nature of their representations of specific social identities (Gerbner and Gross 1976; Dwight E. Brookes and Lisa P. Hérbert 2006). Ontological and public narratives (Somers 1994) therefore function to define identity at an individual and collective level.

3.   Empathy

On 15th September 2011, the front cover of The Guardian contained a response by Ian McEwan to the 9/11 terrorist attacks on the United States. 'Among their crimes,' McEwan wrote, 'was a failure of the imagination':

> *If the hijackers had been able to imagine themselves into the thoughts and feelings of the passengers, they would have been unable to proceed. It is hard to be cruel once you permit yourself to enter the mind of your victim. Imagining what it is like to be someone other than yourself is at the core of our humanity. It is the essence of compassion, and it is the beginning of morality.*

It has also been proposed that one function of stories is to enhance precisely this ability to imagine what it is like to be someone other than oneself. Boyd (2009: 197) advances that 'fiction cultivates our sympathetic imagination by prompting us to see from the perspective of character after character'. A range of cognitive psychology experiments have been devised to test this hypothesis but the evidence so far proves only a correlation between theory of mind and reading fiction, rather than causation (Mar el al 2006; Mar et al 2009; Mar et al 2009; Djikic et al 2013; Bal & Veltkamp 2013). The more one has read throughout one's lifetime, the stronger one's theory of mind (Panero et al 2016), and, there is neural evidence supporting this connection, with research demonstrating overlap in the areas of the brain activated during reading stories and undertaking theory-of-mind tasks (Mar 2011). But causation has not been proven. David Comer Kidd and Emanuele Castano's much publicised 2013 article claiming that reading literary fiction improves theory of mind has failed replication (Panero et al 2016), with Panero et al (2016: e46) concluding that the most plausible links are that 'either that individuals with strong theory of mind are drawn to fiction and/or that a lifetime of reading gradually strengthens theory of mind'. In Why We Read Fiction, Lisa Zunshine (2006) also opts for a weaker case in respect

of the connection between reading and theory of mind, arguing that some novels exercise our theory of mind, and in fact require it if they are to be read well, without claiming that stories function to enhance it. The existence of a correlation itself however, suggests an interesting further function of stories. For example, there is some empirical support for the idea that engagement with stories can potentially encourage empathy with marginalised 'others' (Litcher and Johnson 1969; Katz and Zalk 1978; Galinksy and Moskowitz 2000). Stories might thereby have a role to play in 'reducing bias against outgroup members' (Mar and Oatley 2008: 181).

4.   Social Knowledge

Closely linked with the idea of stories functioning to enhance empathy is the proposal that stories are integral to social cognition. Boyd (2009: 49) advances that 'this is one function of storytelling: that is makes us more expert in social situations, speeding up our capacity to process patterns of social information, to make inferences from other minds and from situations fraught with difficult or subtle choices or to run complex scenarios'. There is both an immediate and an anticipatory aspect to this function of stories. In the present, stories provide strategic information about the social world and the 'capacities, dispositions, intentions, actions, and reactions' (Boyd 2009: 130) of actors in it, information essential to guiding present action and decision-making. At the same time, our compulsive attention to stories over time, driven by the human interest in social monitoring and event comprehension, means that they function to 'develop our facility for complex situational thought' (Boyd 2009: 49). Thus, 'narratives can offer us either particular social information to guide immediate decisions or general principles we can apply in future circumstances' (Boyd 2009: 163). Empirical work provides substantive support for these ideas – see Mar et al 2006 for an overview of empirical evidence for a parallel between narrative and real-world comprehension – although again the evidence is predominantly correlative rather than causative. A positive relation does exist between story processing and social abilities, but research has yet to determine which hypothesis might explain this correlation, for instance whether it is exposure (i.e. to story scenarios which then inform real-world interaction), honing (i.e. engagement with stories improves these skills), or pre-existence (i.e. already empathetic and socially adept people already engage with stories more).

Stories also function to convey knowledge within or between social groups. Recent work in computer science proposes that stories serve as a repository and conduit of tacit socio-cultural knowledge, for example shared values, beliefs, and social behaviours, which can be used as data for machine learning (Riedl and Harrison 2015). They propose that learning from stories might offer one way of solving the value alignment problem, by compelling an artificially intelligent entity to adhere to the values of a culture. One problem with such an approach, however, is evidenced in their recognition that big data, i.e. all the stories of a given culture, would be required in order to achieve this. They propose that this would ensure that stories that challenge socio-cultural norms would be outweighed by those that conform to them. However, many stories can serve both functions simultaneously. For example, literary stories can serve both a conservative and a progressive function at once, in relation to social norms, ethics and codes – Edmund Spencer wrote that the aim of publishing The Faerie Queene was to 'fashion a gentleman or noble person in vertuous and gentle discipline', but the content of his epic poem provides nuanced challenges to the established gender roles of his day. What is clear with regard to the connection between stories and social knowledge is that stories are normative in their function, that is they express value judgements about what ought to be. If stories are constitutive rather than representational, it follows that they are also normative rather than positive or descriptive. As such, stories function both to reveal and establish the social values of a given group. From an evolutionary perspective, they therefore function to motivate cooperation through the consolidation and communication of social norms (Boyd 2009: 64 and 196). But attention to the

stories that circulate in different social groups – both the dominant and the marginalised – can reveal diverse, even conflicting, social values and norms, providing a more complex picture of a society's coherence, or lack thereof.

5.   Simulation

A key function of stories is that of modelling or simulation. Mar and Oatley (2008: 173) propose that stories 'are not flawed empirical accounts, but are instead simulations of selves in the social world'. Stories as simulations enable us to engage beyond our immediate experience, providing knowledge through modelling of, rather than direct access to, complex events. This function of stories is again dependent on an understanding of stories as more than mere description; rather, 'the function of fictional simulations is to enable us to image possible worlds and possible outcomes' (Djikic et al 2013: 32). Neuroimaging evidence supports this idea, showing that the brain regions activated when reading stories or imagining an experience, mirror some of those involved when performing or observing real-world activities (Speer et al 2009; see also Mar et al 2006: 696 for further studies). Focusing on their simulation function renders stories interestingly analogous epistemically to play, thought experiments, scientific models and computer simulations. For example, Boyd understands stories as a form of cognitive play that train us to explore actuality and possibility through the security of vicarious experience. As such, they function to provide an evolutionary social advantage: 'any improvement in interpreting situations and testing possible scenarios, actions, or reactions, using not only personal or reported experience but also the through experiments of pretend play and fiction, offers a telling advantage' (Boyd 2009: 194-5). Stories therefore function as 'scenarios or models that we can draw on in planning our own actions and making our own decisions' (Boyd 2009: 193).

One counterargument to this is that obviously false situations can or should not play a role in planning. But, like thought experiments, stories do not depend on realism to aid our thinking about reality. Their value lies in the epistemic functions they serve, not in their definition as literally true or false (Frigg 2010: 260). Like model systems, stories invite us to analyse, question, and investigate, with results bearing on our functioning in the model's target system, that is, the complex reality the model is designed to abstract and represent. Like model systems, stories as simulations enable us to understand the social world through an ostensibly contradictory combination of complexity and abstraction. Stories, like simulations for instance of the weather or of climate change, enable us to represent and engage with complex interactions between multiple factors. At the same time, they are effective because they abstract the complexity of social interaction, constraining the number of factors they take into account and thus in fact enabling a wider range of response: 'one of the crucial insights offered by cognitive psychologists is that by thus parsing the world and narrowing the scope of relevant interpretations of a given phenomenon, our cognitive adaptations enable us to contemplate an infinitely rich array of interpretations within that scope' (Zunshine 2006: 14; see also Easterlin 1999).

Interestingly the function of stories as simulations is in fact contained within the definition of them as mimetic from which we departed. Halliwell (2002) has shown that Aristotle's definition of mimesis is better translated not as 'representation', but as 'world-making' or 'modelling', or, in perhaps a more seemingly oxymoronic phrase, 'simulated representation' (Djikic et al 2013). Stories might be understood as the very first simulations, running on minds rather than computer systems (Mar and Oatley 2008). Contemporary work in robotics and AI offers a fascinating development of this constellation of ideas, with Alan Winfield (2018) proposing that stories as simulations that model future possibilities without repercussions might be run on computer minds in order to guide robotic action.

6.   Persuasion

Stories are weapons of mass persuasion. Marketing, media, politics, and propaganda all wield this power to their specific ends. As Melanie C. Green and Timothy C. Brock observe, 'the power of narratives to change beliefs has never been doubted and has always been feared' (Green and Brock 2000: 701), although with regard to the latter point, they do not specify by whom, and for what reason. Persuasion is perhaps the most feared function of narratives from the logico-scientific perspective because it is one of the most extreme of story's constitutive operations – when considering stories as persuasion the fear is that we have moved away from the representative, through the constitutive, and arrived at the manipulative and distortive. At that point, stories could not be more far removed from empiricism, from accuracy, and from truth. At this end of the spectrum, the power of stories becomes synonymous with, even responsible for, what has recently been called 'post-truth', a climate in which, even at the highest levels of public discourse and decision-making, objective facts are less influential than emotion and belief. But this public and political crisis can be, at least in part, addressed through a fuller awareness, heightened consciousness and deeper understanding of the function and effects of stories, in particular their persuasive power.

Green and Brock's empirical investigations into narrative persuasion demonstrate the extent to which the power of stories to change beliefs depends upon the level of absorption experienced by the reader – the greater the level of transportation (Gerrig 1993), the more consistent are the reader's real-world beliefs with those represented within the story. It is important to note that this finding is unaffected by whether the story is labelled as fact or fiction. Narrative persuasion is distinct from cognitive elaboration, where change in belief occurs due to logical consideration of argument. As a result, however, it can in fact be more powerful in changing belief. Green and Brock posit that this may be because transportation reduces 'negative cognitive responding' (Green and Brock 2000: 702), that is, it reduces our tendency to counterargue, making us more susceptible to the claims presented in the story. Whereas we respond to cognitive elaboration with an activation of our extant experiences and beliefs, Green and Brock posit that when we are transported by a story, we are suspended from them, and therefore more amenable to belief change. Transportation also plays a key role in the simulative function of stories, which in turn contributes to their persuasive power – real experience can be a strong mode of attitude formation (Fazio & Zanna, 1981), and transportation can render story experience more like real experience.

Stories function as part of the informational context in which people think and act, make decisions, and formulate beliefs and judgements (see also Gregory, Cialdini & Carpenter 1982; Pennington & Hastie 1988; Prentice, Gerrig & Bailis 1997; Strange and Leung 1999; Wheeler, Green and Brock 1999). Research demonstrates that stories, factual and fictional, influence social judgement, agenda-setting and perception of problem urgency and responsibility (Simon 1987; Iyengar & Kinder, 1987; Iyengar 1990 & 1991; Gibson & Zillmann 1994). It also confirms the power of one specific type of story – the anecdote. Jeffrey L. Strange and Cynthia C. Long note that despite the requirement in a rational model of judgement for a single case to only inform category-level judgements if the case is a typical member of the category, 'research […] has shown decision makers to be distinctly neglectful of the representativeness of cases on which they base their decisions' (Strange and Leung 1999: 438; see Hamill, Wilson, & Nisbett 1980). Managing this function of stories requires significantly less neglect, and far more attention to and understanding of, their power and its effects. Any engagement with stories must find its own way to contend with the unavoidable truth that it is not possible for stories to inform but not persuade. This function poses perhaps one of the greatest epistemic, ontological and ethical challenges, and opportunities, of stories.

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