

**Original Article**

**WHY NARRATIVE PSYCHOLOGY CAN'T AFFORD TO  
IGNORE THE BODY**

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**Abstract**

The narrative perspective emerging in psychology since the mid-1980s is threatened by a lingering Cartesianism in how theorists and clinicians approach human beings as storied selves. But, a deliberate effort to engage the narrative perspective in closer dialogue with biological understandings of human activities may challenge continuing Cartesian influences and offers advantageous points of departure for both stances. Areas of intersection may include: (a) biological constraints represented by working memory, speed of processing, and similar functions as they served to shape various cultural adaptations including narrative; (b) the interaction of physical gesture with narrative emplotment which underlies what Sarbin has termed “embodied emotion”; (c) physical and social worlds approached as ecological or environmental challenges which are met by the tactical and strategic use of narrative; and (d) evolutionary mechanisms shaping the form and function of narrative production.

**Keywords:** Biopsychology, Evolutionary psychology, Narrative, Neuropsychology, Story

**Why Narrative Psychology Can't Afford To Ignore the Body**

In a delightful set of essays, *Proust Was A Neuroscientist*, Jonah Lehrer (2007) traces various ways in which some artists and writers of the 19<sup>th</sup> and early 20<sup>th</sup> centuries seem to have anticipated findings of contemporary biological psychology. He cites Proust, of course, because of the way the smell of a small, shell-shaped cake with a butter & lemon taste, a *madeleine de Commercy*, provoked a profound set of autobiographical memories of childhood for the author and led to the opening volume of Proust's (1914) *À la recherche du temps perdu*. Lehrer (2007) goes so far as to claim that, “the best metaphor for our DNA is literature. Like all classic literary texts, our genome is defined not by the certainty of its meaning, but by its linguistic instability, its ability to encourage a multiplicity of interpretations” (pp. 46-47). He seizes upon the relatively small number of genes in the human genome to suggest that the human capacity to cope with the world resides in our ability to adapt to changing situations with a remarkable degree of flexibility, while still constrained and shaped by our biological inheritance. “We are neither fully free nor fully determined. The world is full of constraints, but we are able to

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make our own way” (Lehrer, 2007, p. 51). As the title of Gottschall and Wilson’s recent (2005) volume suggests, we may be able to grasp the nature of this biologically-constrained flexibility with greater insight by exploring what it might mean for humans to be “literary animals.”

For the past twelve years, I have offered a senior seminar to undergraduate psychology majors called *Story in Psychology: The Narrative Perspective on Human Behavior*. The seminar focuses upon that distinctive concern for narrative that has emerged in psychology since the mid-1980s, a period coterminous with the rise of evolutionary psychology and the parallel reassertion of biopsychology’s preeminent place in studying human minds. This concern for narrative can be broadly understood as an interest in the way human beings employ story and story-like discourse or constructions as a primary strategy for achieving four essential goals: (a) construing the meaning of their ongoing experience, (b) predicting how intentional agents will act in the future; (c) negotiating social worlds, and (d) establishing personal identity for themselves and others. The heart of the narrative perspective lies generally in those operations by which temporal events are emplotted, that is, bound into vectored causal sequences by tying such events to the actions of intentional agents. Theorists tend to agree that something important must change in the daily routine or life world of a story’s agent(s) in order to generate a true, or at least non-trivial narrative. Life departs from expected behavioral sequences and stories emerge out of that departure. In Bruner’s (1990) terms, “the function of the story is to find an intentional state that mitigates or at least makes comprehensible a deviation from a canonical cultural pattern” (pp. 49-50).<sup>1</sup> We generally tell stories about unexpected turns of events, not the ordinary routines of daily life.

The growth of *narrative psychology* in the past two decades has been steady. The *Thesaurus of Psychological Indexing Terms* (Tuleya, 2007) first admitted “Narratives” as a primary descriptor within the PsycINFO® database only in 1997. The proportion of entries in PsycINFO® employing any version of the stem *narrativ-* in searchable fields had grown from 0.30% in 1987 to 1.45% in 1997 to 1.85% in 2007.<sup>2</sup> Though small as an absolute percentage, the latest figure reflects a solid and broad concern for narrative within a discipline of so many fields and subfields. By way of comparison with *evolutionary psychology*, the percentage of entries using the stem *evolution-* showed a similar level of interest: 1.09% in 1987, 1.65% in 1997, and 1.90% in 2007.

Despite the relative neglect of narratives by psychology until recent decades, their presence across human life is indisputable. Theorists such as Dan McAdams have advanced broad theories of personality which place narrative as central to the achievement of personal identity (McAdams, 1993, 1996, 2001; McAdams & Pals, 2006) while sociolinguistic researchers such as Michael Bamberg (2006) and Alexandra Georgakopoulou (2006) claim narrative as crucial for understanding the dynamics of even the most fleeting interactions in daily social living. Mar (2004) describes the role of stories in mediated environments quite vividly: “As narrative consumers we appear insatiable, finding the personal stories of others absolutely compelling ... and spending a great deal of time engaged with novels, plays, films and television shows (i.e. crafted or “public” narratives)” (p. 1414). According to Mar, the attraction to narratives on television, in movies, and via children’s books appears quite early in life. Nettle (2005) cites data for the United Kingdom estimating that Britons in 1999 spent “roughly 6 percent of all waking life ... immersed in some kind of dramatic performance” (p. 56) whether on stage or via television. Furthermore, evolutionary theorists have begun to confront the importance of narrative within a Darwinian-inspired framework. Hence, as

Scalise Sugiyama (2005) argues, “the antiquity of narrative is significant. It means that storytelling is a sufficiently ancient phenomenon to have evolved through the process of natural selection and that storytelling might serve an adaptive function...” (p. 177). I will discuss later some current models of evolutionary theory as they intersect with narrative practice.

*The Lingering Cartesian Model*

We are coming to the end of the first decade of the 21<sup>st</sup> century. But, we are equally heirs of that Modern World which arose out of Europe’s vigorous intellectual resurgence in the 15<sup>th</sup> through the 18<sup>th</sup> centuries. Whether we like it or not, we have inherited that dualism of mind and body – of *res cogitans* (the “thinking” being) versus *res extensa* (the being with physical dimensions) – that René Descartes (1596-1650) advanced in the mid-17<sup>th</sup> century (Descartes, 1641/1900). Of course, for the Catholic Descartes, this scheme successfully preserved the immortality of the soul while opening up a vast mechanistic world to rational quantitative analysis. Today, the cognitive sciences explicitly reject Descartes’ dichotomy as theoretically unacceptable. But, as Gallagher (2005) points out, “it seems that Cartesianism is not so easy to escape, and often, implicitly, the idea that the body has little to do with cognition continues to haunt all claims to the contrary” (p. 134) by these same sciences.

It has taken most of the past four centuries to understand the treacherous scientific implications of this dualism and to dig out its most glaring uses in both the biological and social sciences. Nonetheless, it is hard to escape a sense that the emerging voice of narrative psychology also brings a lingering, often hidden Cartesianism in how theorists and clinicians approach human beings as storied selves as well as psychological beings more generally. Maarten Derksen (2007) holds that

Social scientific provincialism is ... supported, implicitly or explicitly, by a world view that goes back to Descartes. It has many guises, but all its dichotomies — mind-body, nature-nurture, nature-culture, to name but the best known — are variations on the same theme, that of a fundamental split in the world that runs through human beings, as a result of which they belong only partly to the natural world (p. 190).

I suggest that under covert Cartesian influence, the creation of narratives can often be seen as the work of purely cognitive processes with little or no connection to the world of biological substrates, neurological mechanisms, and genetic or evolutionary forces. Under dualist influence, such stories often appear to emanate from the “interior mind” of individuals or as a kind of shared symbolic substance quarried directly from the social world. But, rather than detail further evidence for this claim, let me advance four general arguments attesting to the advantages for narrative to enter into some type of an extended dialogue with the life sciences. Most succinctly, my propositions are these:

First, Bruner (1990) argues that biological constraints of human physiology have fostered multiple “cognitive prostheses” or cultural adaptations including narrative. Understanding such constraints including those found in the nervous system and represented by working memory, speed of processing, and so on may clarify certain aspects of narrative functioning itself. Secondly, harkening back to motor theories of consciousness, Sarbin proposed that human emotions reflect attenuated but embodied actions and emerge from an interaction of physical gesture with narrative emplotment

(Ginsberg & Sarbin, 2003). Such a role linking body and story also echoes some of Lakoff & Johnson's (1980, 1999) arguments on the origin of metaphor in the early bodily experience of infants and a more general theory of embodied realism to explain human functioning. Thirdly, social and physical worlds serve as extraordinarily complex environments that humans must both understand and, at some minimal level, master in order to survive and prosper. As humans negotiate these worlds, they deploy multiple narrative strategies. A richer appreciation of ecological or environmental principles and dynamic interactions may better reveal both the tactical and strategic potentials of narrative as human's cope within such worlds. Finally, we may require an evolutionary approach to understand whether the emergence of narrative over and above the development of language itself represents a series of adaptations across the species *Homo sapiens*. Yet, only a handful of scattered and nascent theories concerning the possible evolutionary origins of narrative have appeared so far in the literature and the field is ripe for significant work on this issue.

These are broad theses and each probably deserves a full monograph to explain in significant detail. In the context of this essay, though, let me offer a number of examples suggesting how these arguments have or might be pursued and invite reflection on their implications.

### **Narrative in Dialogue with the Life Sciences**

#### *Narrative & Biological Constraints*

Consider memory as a central set of psychological functions with varying limitations. We know, of course, the seminal restriction of 7 +/- 2 chunks of meaningful information in short-term memory's processing capacity proposed by George Miller in 1956. Recall, too, the "reminiscence bump" that privileges memories from ages 10 to 25 as we move into later life (Neisser & Libby, 2000). In the here-and-now, Alan Baddeley & his colleagues posit a highly modularized model of working memory that includes an "episodic memory buffer" in addition to a phonological rehearsal loop, visuospatial sketchpad, and executive-attentional control system (Baddeley, 2001a, b; Baddeley, Aggleton, & Conway, 2002). This episodic memory buffer "holds integrated episodes or scenes" using a multimodal sensory code (Baddeley, 2001a, p. 858). Its functional role lies in shuttling key data between long-term episodic memory and present-time demands. Finally, the capacity of long-term declarative memory – divided by Tulving into semantic and episodic memory systems – seems to be almost without limit. As we consider constraints and variations such as these what might we learn about narrative's role?

The practical impact of limitations on memory has already received provocative reflection, not by psychologists as much as a range of theorists in anthropology, linguistics, and the emerging field of media ecology. I am thinking about figures such as Walter Ong, Harold Innis, Jack Goody, Eric Havelock, and others (Gronbeck, 2006). Consider the crucial arguments of Walter Ong in his theory of "primary orality" and how biological limitations in the storage of knowledge had comprehensive effects upon the personal & social functioning of early human groups (Ong, 1982). He argues that such societies would mirror nine basic characteristics in their cognitive processes. According to Ong, thinking functions in oral cultures would be (1) additive rather than subtractive, (2) aggregative rather than analytic, (3) redundant or copious so as to enhance clarity and memorability, (4) conservative or traditionalist, (5) oriented very closely to the human

life world in concrete concerns, (6) agonistically toned, (7) empathic and participatory rather than distanced by objectivity, (8) homeostatic and only incrementally dynamic, and (9) situational rather than abstract. More specifically, Ong (1982) proposes, “An oral culture has no experience of a lengthy, epic-size or novel-size climactic linear plot. It cannot organize even shorter narrative in the studious, relentless climactic way that readers of literature for the past 200 years have learned more and more to expect” (p. 143). Further, without the technology of writing which can make quasi-permanent the knowledge of a community, “oral cultures ... use stories of human action to store, organize, and communicate much of what they know” (Ong, 1982, p. 140). Media theorists like Ong, I would argue, offer some guides to life realities within environments of evolutionary adaptation (EEA). Theorists who point to the EEA as an explanatory factor in human development need to weigh more concretely the long-term challenges imposed by memory constraints within such an ecological setting. Conversely, psychologists may find in narrative production important keys to cognitive coping mechanisms in both ancient and modern worlds.

Further, recent neuroimaging studies have identified conflicts between models of episodic memory retrieval and more narratively encoded autobiographical memories. Gilboa’s (2004) broad review of the literature found distinctive and important differences in prefrontal cortical functioning according to these memory types. While both memory forms elicit bilateral ventrolateral and superior frontal cortical activation, autobiographical memory elicits activation of the left ventromedial prefrontal cortex that is absent in non-autobiographical episodic memory. In another meta-analytic review of functional neuroimaging studies, Svoboda and her colleagues (Svoboda, McKinnon, & Levine, 2006) similarly proposed a functional distinctiveness of autobiographical memory vis-à-vis episodic memory. These data tend to support Martin Conway and his colleagues when they characterize declarative memory as a three-part set of interacting systems: semantic memory, episodic memory, and a separate “self memory” or autobiographical system reflecting an individual’s narrative identity (Conway, 2005; Conway & Pleydell-Pearce, 2000).

Finally, Linden (2007) follows the lead of Gazzaniga (1998, 2005) who proposed that we evolved a “left-hemisphere ‘interpreter’ [in our brains that] includes a special region that interprets the inputs we receive every moment and weaves them into stories to form the ongoing narrative of our self-image and our beliefs” (Gazzaniga, 2005, p. 148). Linden (2007) believes that “the binding together of disparate percepts and ideas to create coherent narratives that violates our everyday waking experience and cognitive categories is a left cortical function that underlies both dreaming and the creation and social propagation of religious thought.” (p. 231). This appeal to the functioning of a localized narrative interpreter suggests a form of modularity within the central nervous system that falls squarely within the concerns of evolutionary psychology.

#### *Narrative & Neuropsychology: Embodied Consciousness*

Cognitive scientists debate the nature of emotion, cognition, and consciousness itself. Without describing these debates in detail, I suggest that theories of embodiment may offer narrativists an important domain for exploration. In 2003 Ted Sarbin, a founding voice for narrative psychology, together with his colleague, Jerry Ginsberg, proposed that feelings or emotions arise within the intensely interpretive context of emplotted human interchange where actors read their own embodied actions and those of

their conversational partners at varying levels of conscious awareness (Ginsberg & Sarbin, 2003). This theory of embodied feeling in psychology can be linked back to the early 20<sup>th</sup> century and Washburn's *motor theory of consciousness* (Pillsbury, 1940; Washburn, 1914, 1916, 1928) as well as the recent work of Gibbs and Berg (2002 a, b) on mental imagery and embodied activity. In their words,

Embodiments arise in social interaction in which participants govern their actions by taking into account feedback from their expressive behavior but always in the context of concurrent answers to the implied questions: What is my role? What story am I engaged in? Taking into account the social context is not unlike the vigilance exhibited by other species in the struggle for survival (Ginsberg & Sarbin, 2003).<sup>3</sup>

The link of story and body has prompted Peterson & Langellier (2006) to argue more generally that “narrative requires bodily participation in listening and speaking, reading and writing, seeing and gesturing, and feeling and being touched. In all of these instances, some *body* performs narrative” (p. 175). The actions of the body, therefore, stand at the center of both narrative production and reception.

Such notions echo the arguments of Lakoff and Johnson (1980) about the origin of metaphor in the early bodily experiences of infants. They embrace a fully embodied realism that finds that concepts are usually framed by metaphors which are themselves grounded so often in the sensory-perceptual experiences of the physical world. In a related way, Boyd (2005) offers an evolutionary theory of art (including narrative) which is founded partly in the early experiences of infants in physical interaction with their caregivers. Aligning himself with Ellen Dissanayake (1988) on this matter, Boyd (2005) describes how these conversants – infant and adult – “use eyes and faces, hands and feet, voice and movement” (p. 163) as they engage in the earliest forms of mutual communication. The performative quality of narrative in later life may find its origins more precisely in those bodily elements which are first organized within such infant-parent “protoconversations.”

On a final note about embodiment, consider the provocative experimental case study summarized by Gallagher (2005, chap. 5). Jonathan Cole's laboratory at the University of Chicago completed a series of experimental studies of gesture with Ian, an adult patient suffering neuropathy of touch and proprioception with significant difficulties of motor control as a consequence (Cole, Duncan, Furuyama, & McCullough, 1998; Cole, Gallagher, & McNeill, 2002; Gallagher, Cole, & McNeill, 2001). Ian's startling ability to employ gesture appropriately and easily when communicating a story points to gesture and bodily movement as profoundly integrated into a semantic-communicative matrix rather than standing simply or independently as products of the motor nervous system. As Gallagher (2005) notes, “gesture is not a form of instrumental action that takes place within a virtual or narrative space. Rather, gesture is an action that helps *create* the narrative space that is shared in the communicative situation” (p. 117). Such contemporary findings about the role of gesture in storytelling echo the comments of literary-historical scholars in their efforts to understand the creation of theater during the Greek classical age. According to these scholars, drama on the stage joined a wide range of other public presentational forms to make up part of what Rehm (1992) characterizes as “the performance culture of Athens” (p. 3). Indeed, as Konstan (2006) argued recently, emotions themselves found expression in ancient Greece most centrally as public displays rather than as internal feeling states.

*Narrative & Ecological Niches*

In a recent review Sterelny (2004) argued that many environments across human history were “so informationally demanding” (p. 256) that humans have carried major cognitive loads in coping with these settings. He offers the example of early hunter foragers who needed detailed natural history information “about what to chase and what to leave, and when to continue searching through a patch, and when to go elsewhere... They [needed] information about encounter rates of particular prey, about capture probabilities, about risk, and about the comparative profile of different patches” (p. 256). In light of my earlier comments about Ong and worlds of primary orality, narratives seem primed to serve an important role in fostering how humans handled complex niches in the natural as well as social worlds.

The encoding of fundamental information in natural ecologies — what some term “ethnoknowledge” (e.g., Linker, 2005) — has doubtless used multiple forms of myth and story from the earliest eras of human development. Scalise Sugiyama (2005) points to her own ethnographic work among contemporary groups of hunter-gatherers. In these groups’ oral productions, she reports, there is “a wealth of local zoological, botanical, and topographical information that is difficult or costly to acquire firsthand” (p. 195). Studies such as hers underline how the “natural” world consists of a great deal of information-rich or saturated ecological niches. Every animal species including *Homo sapiens* must adapt itself to such niches. As such, these niches pose serious semantic challenges to any organism which might potentially dwell there. Hence, every organism constantly scans its specific local environment(s) in order to extract from those environments the information which it needs to survive and thrive. The early 20<sup>th</sup> century biologist, Jacob von Uexküll (1864-1944), proposed the notion of what he termed the *Umwelt*, an organism’s subjective experience of the world, as a fundamental concept by which to understand the interaction of living beings within environments (Kull, 2001, von Uexküll, 1936/2001). More contemporary thinkers in biology and other fields have coined the term *biosemiotics* to indicate that living beings at multiple levels of organization and complexity engage in continuous perceptual monitoring and communication processes involving meaningful stimuli across both natural and social worlds (Hoffmeyer, 1996; Sebeok, 2001).

In psychology, experimental data demonstrate how individuals tend to interpret the stream of perceptual input in distinctly narrative ways. For example, Speer, Zacks, and Reynolds (2007) performed functional magnetic resonance imaging with participants who were presented with brief narratives of everyday activities on a word-by-word basis. The researchers were able to distinguish clear changes in brain activation patterns associated with changes at various boundaries within the stories that involved time, location, or characters. Speer et al. (2007) concluded that “A network of brain regions responded selectively at event boundaries when people read about everyday activities, even when the readers were not explicitly attending to those boundaries” (p. 453). These findings are consistent with the notion that humans tend to structure their experiences in an orderly fashion according to narrative markers (such as time or place differences or changes in a character’s goals). The functional import of these markers, the authors propose, may be either to initiate or signal the need to update the mental model by which an individual navigates its current environment.

Jokes, bawdy stories, funny personal anecdotes, and the entire constellation of

humorous performance in person or via the media illustrate the ability of specific forms of narrative to signal and inform others about crucial aspects of the natural and social worlds (Martin, 2007). Socially narrative humor conveys multiple forms of information such as (1) the skillfulness of others' and one's own cognitive ability to read complex social settings, (2) styles and levels of leadership and personal confidence, and (3) an array of social rules and practices whose importance within specific groups is underlined (and taught) when their violation becomes the object of humor. Recognizing why a story is funny often depends as well upon an awareness of how the natural world functions normally and, by contrast, how the behavior of some agent (whether person, animal, or some other intentional character) departs from what others expect them to do. Gervais and Wilson (2005) argue convincingly for the evolutionary emergence of laughter among primates and its subsequent use by hominids as an adaptive behavioral trait. They describe the early appearance of stimulus-provoked and emotion-filled "Duchenne" laughter<sup>4</sup> and point to a "laughter coordinating" center in the dorsal upper pons as the potential biological substrate for this form of laughter (Gervais & Wilson, 2005; Wild, Rodden, Grodd, & Ruch, 2003). Across the last two million years of hominid evolution, humor has probably co-evolved with the emergence of increasingly sophisticated cognitive skills. Indeed, the emergence of language itself may have depended to some degree upon the ability of laughter to serve as an important signal that groups had arrived at locations and time periods of decreased threat and heightened security. When you are relaxing, you can more easily share a joke or story.

*Narrative as Evolutionary Mechanism*

It should be clear that human beings employ narrative strategies broadly and frequently and, thus, stories claim a significant share of human mental activity. But why is this true? As the previous section has suggested, we finally must confront the question of whether evolutionary psychology can provide important insights into what Sarbin (1986) called "the storied nature of human conduct." How broadly has the question actually been posed? My own and others' readings suggest that narrativists tend to give this possibility very little attention (Gottschall, 2003) while evolutionary psychologists too frequently seem to be unaware of the burgeoning and nuanced psychological literature involving narrative which has emerged in the last several decades. Of course, the prevailing ideology of social constructivism that informs the thinking of so many narrativists and, conversely, the hostility by evolutionary researchers to many forms of social constructivism all too often has kept both sides from a fruitful dialogue. Yet, at least from the Darwinian side, efforts to reach some sort of rapprochement seem underway (De Block & Du Laing, 2007; Wilson, 2005).

It should be no surprise that evolutionary theory has slowly emerged as a lens by which to describe how literary narratives give voice to plots and character motives resonant with evolutionary implications, that is, to themes such as survival, mating & parental activities, kin support and group cohesion, and inter-group conflict (Carroll, 2005). Under the labels of *Adaptationist* or *Darwinian Literary Studies* (Carroll, 2002, 2005; Gottschall, 2003), a small group of critics has gradually approached ancient classics such as *The Iliad* or *Beowulf* (Fox, 2005), eminent dramas like *Hamlet* (Nettle, 2005), or romantic novels such as Austen's *Pride & Prejudice* (Carroll, 2005) as works imbued with profound evolutionary themes. While orthodox, frequently constructivist literary commentators seem to have shunned Darwinian theory and criticism in the past,<sup>5</sup>

it is probably only a matter of time before the walls of complete resistance crumble. For this paper, however, I want to raise the question less about how evolutionary analysis helps to reveal the specific meaning of written or literary narratives and more what a Darwinian stance discloses about narrative functioning within human psychology itself.

Evolutionary psychology currently offers no single theory to account for the development of narrative in the behavioral repertoire of *Homo sapiens*. There is no agreement, either, on whether narrative should be categorized primarily as an instrument of cognitive analysis and information processing *or* as a form of artistic production (see, for example, Boyd, 2005). Nonetheless several promising approaches to the evolutionary origins of narrative deserve notice.

Narrative theory holds that stories have to do with events happening to intentional agents across spans of time and reflect ways of making sense of these temporal experiences (Abbott, 2002). Storytelling cannot occur unless a narrator and an audience are able to enter into the flow of time mentally, understand how events in time function within the tale, and monitor the telling of the story itself as it unfolds. An audience must hold in mind simultaneously the story as narrated vs. the story as chronologically experienced by its characters. Without some form of episodic memory and the ability to move mentally back and forth across personal time (what Tulving terms *chronesthesia* or “mental time travel” [Murray, 2003]), we would not understand a narrative. This compels our consideration of episodic memory as a crucial cognitive mental system and what it might suggest about story’s function from an evolutionary perspective.

Tulving (2002) argues that episodic memory is an ability unique to humans, “There is no evidence that any nonhuman animals—including what we might call higher animals—ever think about what we could call subjective time” (p. 2). Three characteristics mark episodic memory in humans: (1) a *self* serving as a conscious reflexive center for the memory, (2) an *autonoetic awareness* that specific past events happened to that self, and (3) *subjectively sensed time* which tags events as occurring at specific temporal points during the self’s life course. In evolutionary terms, Tulving (2002, 2005) believes that episodic memory emerged quite late in human development but does not suggest a specific model for its appearance. Nonetheless he points out powerful advantages that humans acquired in the evolutionary emergence of episodic memory over and above those attending to semantic memory (Murray, 2003; Tulving, 2005). These included most importantly the ability to project past experiential learning into the future and, thereby enhance knowing who or what to avoid or to embrace in social relationships, daily activities of survival such as food gathering, and the development and use of technologies. While not specifically targeted by psychologists of memory like Tulving, narrative might be plausibly understood as a by-product in the emergence of such a cognitive mental system focused upon the future and its demands. Such a conclusion seems congruent with the experimental findings of contemporary evolutionary psychologists about the adaptive role of time perspectives within Evolutionary Life History Theory (for example, Kruger, Reischl, & Zimmerman, 2008).

Narrative’s ability to inform humans about the strategies adopted by others and themselves under differing circumstances in the past provides an advantageous way to anticipate and predict future behavior. Steen (2005) deploys a strong version of Baars’ (1998, 2002) “Global Workspace” theory of consciousness to build a specific evolutionary model of narrative which also focuses upon its adaptiveness vis-à-vis the future. In this model, human consciousness serves as a kind of presentational theater in

which we experience a tentative world model “already parsed into Kantian categories of objects and agents, located in space and time” from the more basic data of our individual senses (Steen, 2005, p. 96). Narrative acts as a high-level expert system construing the data found within this “theater” of consciousness. In doing so, it functions to “gener[ate] *predictions* about what types of *strategies* agents will pursue, based on inferences about their *goals*, by tracking the *obstacles* to achieving these goals and the resources available for overcoming them” (p. 97, italics in the original). For Steen (2005), the evolutionary importance of narrative derives from its adaptive role in simulating possible or alternative scenarios involving fundamental dangers and challenges posed by predators, deceitful agents, and the like without putting a story’s audience at risk. As a result, both storytellers and listeners (even those weighing internally generated or personal narratives shared only within their own imagination) can much better anticipate both the behavior of others and of themselves in critical situations by recalling or comparing narratives experienced at times of relative safety. As play among younger individuals of a species often has adaptive value precisely as a teaching simulation of potentially harmful forms of encounter, narrative’s adaptive role across the human lifespan comes in the simulation of potentially injurious scenarios and their successful resolution.

Robin Dunbar’s social evolutionary theory (Dunbar, 1993, 1997; Dunbar, Duncan, & Marriott, 1997; Dunbar & Shultz, 2007) holds that language arose as an adaptation to foster social relationships and that verbal or conversational “grooming” served to make solid the relational bonds within complex human groupings (Barrett, Renzi, & Dunbar, 2003).<sup>6</sup> Oakley and Mar (2005) outline a highly elaborated and hierarchical model of narrative which advances Dunbar’s social theory of language. In this model, narrative is the end product of a “staircase of evolutionary pre-adaptations” (Oakley & Mar, 2005, p. 181). In their argument, contemporary written narrative in the form of fiction emerges only at the end of seven interacting stages of evolutionary development. At the first stage, shared by primates including chimpanzees, animals develop knowledge of individual conspecifics *as individuals*. Dunbar’s (1993) thesis that increases in brain size permits larger social groups serves as the second step in the staircase. And, with growing social groups, the challenge of knowing other group members increases at an exponential rate. Following Donald (1990), the third element comes with the emergence of physical mimesis whereby animals can mimic the actions of others in their social group, an ability tied probably to the emergence of mirror neurons in non-human primates and later hominids. Dunbar’s proposal for the development of language as a form of verbal or conversational grooming functions as the fourth step in Oakley and Mar’s model. They note additionally that, compared with those of other primates, human societies require members to maintain relationships with absent others, a more demanding cognitive task than interacting only with those who are always present (Barrett, Renzi, & Dunbar, 2003). Hence, an ability to represent to oneself those who are members of a group, although not currently present, would permit greater flexibility in human compared to non-human societies.

Narrative proper finally emerges according to Oakley and Mar at the fifth level within their model. As individuals engage in conversation as a means of fostering group cohesion, a notable advantage accrues to the recursive cognitive skills of (1) knowing what is on the mind of the other and (2) knowing that the other knows that one knows what is on their mind. These two skills rest upon storytelling and reflect clear advances in the human capability of understanding other persons more completely as complex characters whose behavior can be interpreted in meaningful ways. The final two stages in

Oakley and Mar's model bring narrative to far more elaborate forms than its primitive conversational type. The appearance of symbolic activities and metaphor among humans 30,000 to 50,000 years ago represents a new level of narrative sophistication. Multiple domains of knowledge can now fruitfully interact with each other via metaphoric processes. Finally, religious ritual, mythmaking, and the oral transmission of stories across generations mark the final stage in narrative's evolutionary advance and significantly improve how groups might maintain their social coherence. All later forms of narrative such as fictional dramas or novels simply recast fundamental cognitive abilities already achieved via evolutionary means before the invention of writing.

### **Conclusion**

Reading about the topics I discuss in this review – narrative vis-à-vis biological constraints, embodied emotion, biosemiotics, and evolutionary psychology – I noticed that commentators failed to acknowledge certain issues in their scholarly efforts. From the perspective of the major narrative theorists in psychology, any biological substrate to story making receives little or no attention, an observation I noted at the outset. Indeed, one seminal figure in narrative psychology recently expressed clear distaste when I mentioned that I was working on this paper. “But, of course,” that psychologist commented, “nothing interesting about narrative happens until we move beyond the biological.” This response parallels the reactions I have received over more than a decade of seminar exchanges with students and some faculty at both the senior undergraduate and graduate levels. At least a moderate version of the so-called “standard social science model” (Barkow, Cosmides, & Tooby, 1992) seems quite alive among narrative theorists. It seems difficult for the narrative perspective in psychology to enter into conversation with the body.

Yet, on the other side of this divide, I would reiterate a point I also made earlier. Many biological and evolutionary psychologists seem oblivious to multiple aspects of narrative psychology even when they attempt to address narrative concerns. For example, the literature makes little distinction regarding narrative as (1) a *mode of data construal for informational and predictive purposes* (“Prof. Smith’s funding record makes him a good candidate for promotion” versus (2) a *self-presentational or performative display* (“Jack sure knows how to make women laugh with those outrageous stories he tells at parties”) versus (3) an *integrative personality function* (“Malcolm X’s experience of the Hajj to Mecca fostered the second great transformation of his life as he moved to a more universal advocacy of the poor and the powerless”). Additionally, the quite short span of time since the advent of writing, printing, and widespread literacy across the human species should caution evolutionary psychologists to weigh oral narratives differently than their written analogues. While the form of media allowing narrative expression may modify human consciousness according to Ong (1982), evolutionary processes can directly explain only oral narrative.

Finally, many evolutionary researchers formulate their data gathering and interpretive operations by creating highly storied scenarios. Often participants in evolutionary experiments generate data as dependent variables by choosing responses that function as one of several alternate endings to narrative-constructed situations. I suspect that evolutionary investigators may need to reflect more critically on the use of narratives in confirming or disconfirming their hypotheses. Narrative can exert a seductive power cognitively because, in David Herman’s (2002) analysis, stories not only

have a logical structure, but also *are* a logical form by which we make sense of the world. Bruner (1990) calls this the difference between the paradigmatic and the narrative modes of thinking. Accordingly, the design of experiments in evolutionary science must be sure that the *interpretation* of experimental results is not a self-confirmatory process arising from the narrative power or verisimilitude of their participants' responses.

Finally, the intriguing and multidisciplinary models of narrative emerging from biological and evolutionary analysis underscore once more how the Cartesian divide plays a pernicious role in furthering our understanding of narrative. Again and again the data reported here point to ways in which story telling is linked intimately to biological systems and achieves adaptive ends. But, the move to extend narrative theory and practice into biological and evolutionary domains has been tentative and a relatively large area of overlap between these perspectives remains uncharted. I can only look forward to the future when more integrative explanations can show us how *Homo sapiens* emerged as *Homo narrans* as well.

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#### **Notes**

<sup>1</sup> From an evolutionary frame, Boyd (2005) claims that “to merit attention, stories select the striking: unusual characters or events or both. Research shows we remember best stories with characters who violate our categorical expectations...” (p. 164). I return to the conjunction of narrative and evolutionary psychology later in this paper.

<sup>2</sup> These data and the subsequent figures for "evolution-" were generated from PsycINFO® accessed via the EBSCOhost Research Databases on April 3, 2008 and represent the entries in PsycINFO® current as of that date.

<sup>3</sup> I draw this quotation from the unpublished manuscript of their presentation which I received in my role as one of two discussants in this symposium. Hence, no page number is cited.

<sup>4</sup> “Non-Duchenne” laughter is a self-generated and emotionless form of laughter, initiated by a speaker, for a range of strategic purposes, for example, a “nervous laugh” which signals social discomfort (Gervais & Wilson, 2005; Keltner & Bonanno, 1997). “Duchenne” laughter was first described by the French neurologist, Guillaume-Benjamin Amand Duchenne de Boulogne (1806-1875) in his treatise, *The Mechanism of Human Facial Expression* (Duchenne de Boulogne, 1862/1990).

<sup>5</sup> The latest edition of the canonical *Norton Anthology of Theory and Criticism* (Leitch, 2001) makes no mention of any Darwinian or evolutionary approaches to literary

## *Narrative and the Body*

analysis. The *Routledge Encyclopedia of Narrative Theory* (Herman, Jahn, & Ryan, 2005) is equally silent.

<sup>6</sup> Scott-Phillips (2007) offers an opposing view.