

Prelinguistic and Preliterate Substrates of Poetic Narrative

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Abstract Despite its long oral and unrecorded history, *literature* means for most people printed texts and reading. Yet shades of this preliterate past remain and continue to affect our responses to written literary forms today. Studies of mothers' interactions with prelinguistic infants reveal "proto-"aesthetic characteristics that babies prefer to adult-directed speech, suggesting that adult psychology and experience grow from and build upon inborn motives and preferences. Synthesizing contemporary concepts and findings from developmental psychology, ethology, evolutionary psychology, paleoarchaeology, and neuroscience, this article describes five "proto-"aesthetic devices and three "principles of salience" that universally inhere in mother/infant interaction and that remain important substrates of emotional response to literature. The article argues that our sensitivity to some nonverbal, emotional, and aesthetic aspects of literary narrative and other arts originated in an adaptive social context in our evolutionary past.

1. Aesthetic Receptivity in Adults Arises from Inborn Predispositions of Infants

Infants (as denoted by the word's Latin origin, *infans*) are unable to speak. Recent studies of infant development indicate, however, that prelinguistic babies have surprisingly precocious abilities to engage with mothers and others in temporally organized communicative exchanges (Falk 2009; Malloch and Trevarthen 2009a). Although adults use language in these

interactions, the infants presumably respond to nonverbal (or “paralinguistic”) features of the “baby talk” addressed to them.¹

The earliest members of the genus *Homo* did not speak. Although prehistorians do not agree on the earliest appearance of spoken language, most accept that archaic humans probably made and responded to music-like and emotionally motivated vocalizations that preceded speech by many hundreds of thousands of years and helped enable it (e.g., Falk 2009; Mithen 2005). Eventually, after spoken language became a defining characteristic of *Homo sapiens*, utterances both prosaic and poetic could not have been preserved until writing was invented, around 5000 BCE. In preliterate societies of the present and of the recent past, poetry is distinguished from ordinary talk by a range of stylistic and formal attributes, including a special vocal register and vocabulary, musical form or accompaniment, structural repetitiveness, and the context or setting of performance (Finnegan 1977).

Despite its long oral and unrecorded past, *literature* means for most people printed texts and reading. Yet shades of its preliterate and even preverbal and musical past continue to tint poetic language today. This is suggested by studies of the responses of prelinguistic infants to their mothers’ narratives (or, if you will, proto-narratives), conceptualized here as temporally ordered mimetic communication.² Babies display innate receptivi-

1. The communication is processed by infants as a multimodal “package” of adult facial expressions, head and body movements, and vocalizations (Stern 1977: 47). More on this in section 2.

2. For scholars of literary narratology or the poetics of narrative, I should make it clear that, in keeping with the presymbolic capacities of infants, I use the terms *narrative* and *mimesis* in a more rudimentary sense than they do. Thus *mimetic* here is not Aristotelian (i.e., imitation of an *action*), nor is it congruent with contemporary characterizations of “narrative” as *event*-representing discourse (e.g., Sternberg 2003a: 301), except insofar as multimodal expressions of intentions and feelings are “actions” or “events.” I use *mimesis* in the sense of Merlin Donald (1991: 168–69): the ability to produce (in the infant’s case, to respond to) conscious, self-initiated representational acts (by a mother or some other adult) that are intentional but not linguistic, using “tones of voice, facial expressions, eye movements, manual signs and gestures, postural attitudes, [and] patterned whole-body movements of various sorts” (ibid.: 169). Donald’s scheme applies to stages in the evolution of human culture and cognition, not to mother/infant interaction, but it recognizes that *mimesis* “can be cleanly dissociated from the symbolic and semiotic devices upon which modern culture depends” and is “more efficient than language in communicating emotions” (ibid.: 198) and intentions. These, I argue, are what is being “represented” by mothers to their prelinguistic infants. Developmental psychologists Stephen Malloch (1999) and Colwyn Trevarthen (Malloch and Trevarthen 2009b: 4) describe how *pulse* (the regular succession of discrete behavioral events through time) and *quality* (the modulations that shape “feeling” in vocal and physical movement and express temporal variation in intensity, pitch, and timbre) combine in baby talk to become “narratives” of expression and intention that generate a shared sense of purpose in passing time.

ties to fundamental “proto-”aesthetic devices (e.g., repetition, exaggeration) that evolved to enable these earliest adult/infant interactions (see section 2 below and Dissanayake 1999, 2009b; Malloch and Trevarthen 2009a). I suggest that these fundamental receptivities remain as important substrates of aesthetic and emotional response in preliterate (or oral) poetic narrative as well as in poetry of literate traditions.

If we recall that for 99 percent of their evolutionary history humans were nonverbal or preliterate, it then becomes clear that contemporary ideas about the nature and function of narrative or poetry will gain depth and richness if embedded in awareness of aesthetic predispositions that evolved during our long and influential prehistoric past.³ For at least several decades, much literary theory has operated under the assumption that all knowledge and experience are mediated by culture and that there is therefore no “natural” psychological or emotional experience.⁴ Yet if, as infant psychology confirms, babies in every culture show the same or similar cognitive abilities and preferences and the same or similar motivations and emotional responses, it is necessary to modify the dogmatic assertion that all experience—including literary response—is entirely socially constructed. Rather, adult psychology and experience grow from and build upon inborn motives and preferences. Literary theorists may want to acknowledge, and even embrace, contemporary knowledge from developmental psychobiology, ethology, evolutionary psychology, paleoarchaeology, and neuroscience that is synthesized here and pertains to the conceptualization of their own subject.

2. The Earliest Social Abilities of Prelinguistic Infants Are Based on Proto-Aesthetic Devices

The taxonomic family Hominidae is characterized, among other things, by two prominent and consequential traits. The first is walking on two legs (e.g., Potts 1996). Numerous anatomical adaptations were required to convert a quadrupedal knuckle-walker into an upright bipedal strider. Over several million years of evolution, for example, the rib cage was restructured—as were the bones of the inner ear, the spine was reshaped and the opening of the spinal cord relocated, the lower limbs and feet altered, joint surfaces reconfigured, and body musculature resculpted. A second

3. The genus *Homo* emerged around two million years ago (Mithen 1996); the earliest true writing system appeared late in the fourth millennium (before 3000 BCE) (Gowlett 1984).

4. Fludernik (1996) writes of “natural” narrativity and incorporates consciousness and embodiment (“immundation”) into her scheme. I address these and similar ideas in sections 5 and 5.1.

significant trait, brain enlargement, took place concurrently, so that by the time of *Homo habilis*, between 2 and 1.5 million years ago, the brain had doubled in size from that of earlier four-legged forms. Another spurt of brain growth, doubling its size, occurred around a half million to two hundred thousand years ago (Mithen 1996: 11).

What does this paleontological information have to do with mother-infant communication? Everything, once it is pointed out that among the suite of anatomical changes required by bipedality was a reshaped pelvis that resulted in a serious obstetric problem—giving birth to an increasingly large-brained baby through an increasingly narrowed birth canal. Further anatomical adaptations addressed this particular difficulty. Neonate skulls became compressible and female pelvises developed a symphysis that separated slightly at parturition. In addition, considerable growth of infant brains takes place outside the womb—indeed, by age four, the brain is three times larger than at birth. Importantly, babies were born while still quite immature (compared with other primates): they developed more slowly during gestation and for several years after birth. It has been estimated that if human babies were as physically mature at birth as infant chimpanzees, gestation would last twenty-one months and the baby would weigh twenty-five pounds (Gould 1977; Leakey 1994: 44; Portmann 1941).

Such helpless creatures require assiduous care by adults over months and years. To ensure that care, another important *behavioral* adaptation contributed to immature infants' survival: the affectionate communicative behavior called "motherese" by developmental psychologists (e.g., Fernald and Kuhl 1987) and colloquially, by the rest of us, "baby talk." I refer to the peculiar sing-song voice in which people (not only mothers) universally speak to infants and babies. It differs from conversation with adults, or even older children, by having a higher overall tone, wider tone range, slower tempo, exaggerated vowels, more repetition, and a simplified, specialized vocabulary (Monnot 1999). Babies demonstrably prefer this kind of talk to the adult kind and reward those who produce it with beguiling wiggles, coos, kicks, and smiles. Because infants let us know by their own positive and negative reactions which movements, expressions, and sounds they prefer, they can be said to actively elicit, shape, and otherwise influence the pace, intensity, and variety of signals that adults direct to them. It is not too much to say that baby talk is a shared or co-created—even co-adaptive—communication.

Although adults are not aware of it, the facial expressions, sounds, and movements that they use in motherese are all derived from adult signals of friendliness and accord (Grant 1968, 1972). These include open eyes (expressing interest), raised eyebrows and backward or upward raising

of the head (indicating familiarity and receptivity), head nods (showing agreeableness), open mouth or wide smiles (showing receptivity, pleasure, and liking), mutual gaze (expressing intimacy), soft non-threatening voice, and physical gestures of sympathy and devotion, such as stroking, patting, hugging, and kissing. In motherese, however, all these visual, vocal, and gestural signals of affinity are exaggerated (e.g., made larger, held longer) and repeated, often with dynamic variation and elaboration (louder, softer, faster, slower, larger, smaller). Although mother and baby are simply enjoying each other's company, awash in loving feelings, the mother's emphatic signals of friendly interest are, unknown to her, augmenting the release of prosocial hormones that foster maternal behavior in all mammals (Panksepp 1998). Making these signals also reinforces her brain's neural circuits for affiliation and devotion, thereby ensuring that she will more likely want to care for a demanding helpless creature for months and years (see Scherer and Zentner 2001 for a description of biofeedback). Compared with other Pleistocene mothers who did not make emphatic affiliative signals that reinforced such devotion, a baby-talking mother was more likely to have reproductive success. By calling forth such signals from its mother and encouraging her to keep making them, an interactive baby (compared with less responsive infants) inadvertently helped to ensure maternal care and therefore its own continuing survival.

The unusual if not unique ability of humans to "entrain"—that is, to keep time, as in clapping, to an external beat (Brown 2000)—contributes to the high aptitude of our species for "muscular bonding" (McNeill 1995) or collective coordination, as in music, dance, and ritual performances (Cross and Morley 2009). Although entraining or synchronizing to a steady pulse is a gradually acquired ability,⁵ the mother-infant interaction requires either partner to anticipate the other's response. Even neonates show sensitivity to temporal sequence and pattern, and can engage in behavioral turn-taking as early as eight weeks (Beebe 1986). By this age, also, they expect social contingency, defined as interpersonal sequential dependency (Miall and Dissanayake 2003: 339)—predictable back-and-forth interactivity. If a positive interaction is experimentally manipulated, so that one partner's signals are delayed only a few seconds, the other partner becomes perplexed and distressed. Even though the appropriate signals are being produced, something seems "wrong" because they are not coordinated in real-time with the partner's behavior (Murray and Trevarthen 1985; Nadel et al. 1999). Microanalyses of interactions, video-

5. At age four, about half of all children are able to synchronize by clapping hands or tapping rhythm sticks (Rainbow 1981).

taped at twenty-four frames per second, show exquisitely coordinated engagements between mothers and eight-week-old infants, with signals, responses, and anticipations of responses that occur too rapidly for conscious processing—they take place in what has been called “a split-second world” (Stern 1971).

It should be mentioned that the preceding account of the proposed evolutionary origin of mother-infant interaction has emphasized the positive aspects that were necessary for successful (i.e., adaptive) bondings and consequent infant survival in the Pleistocene. Not all mother-infant interactions are equally fluent, of course, and even in the most positive engagements there may be interruptions and mismatches, whether by accident or inattention. Developmental psychologists Beatrice Beebe and Frank Lachmann (1994) claim that infant expectancies in interactions with adults are organized (represented) in memory according to three conceptually related principles of salience. These principles, I would argue, have suggestive similarities to later aesthetic experiences of oral and, *mutatis mutandis*, written literary forms (see section 5).

The first principle, expectable ongoing regulation, refers to the characteristic socially-contingent and predictable way in which a normal interaction unfolds, as just described. This expectable regulation might be considered the “default” mode against which other experience is viewed. At times, however, expectancy may be violated or disrupted, mildly or severely, with ensuing efforts by the infant to repair the breach. In these interactions, infant experience is organized by a second principle, that of contrast, disjunction, and difference. Thereby, the gap between what is expected and what is happening may be either repaired, leading to experiences of coping, “effectance” (Gianino and Tronick 1988: 63), and righting, or inadequately resolved (in mismatches), leading to frustration and distress.⁶ The third principle, heightened affective moments, is recognized by any full expressive display in the baby’s face or voice and necessarily accompanied by heightened bodily arousal. Here, infants may experience a powerful state transformation: one dramatic moment that is positive (e.g., resonance, exhilaration, awe, or “being on the same wavelength”) or negative (e.g., inundation, overarousal, and inability to escape) moment stands out in time and serves to organize internalization or representation in memory of the experience (Beebe and Lachman 1994).

6. Such distress was evident in the deliberately disrupted contingency experiments described above.

3. Some Proto-Aesthetic Devices Used by Mothers with Prelinguistic Infants Resemble Ritualized Behaviors in Other Animals

What mothers convey to preverbal infants are not the lexical meanings of their spoken words about the baby's looks, actions, and digestion, but rather paralinguistic affinitive messages about their own maternal intentions and feelings: You interest me, I like you, I am like you, I like to be with you, You please me, I want to please you, You delight me, I want to communicate with you, I want you to be like me. An understanding of verbal language is not required to interpret these communications: they are understood through the affectionate facial expressions, vocal sounds, and gentle movements that have been altered from their prototypical uses in friendly adult communication. The result is what some psychologists (e.g., Klaus and Kennell 1976; Papoušek and Papoušek 1992) have called "bonding" or even "emotional bonding" of the partners.

What mothers do in their engagements with infants can be described abstractly as simplifying, repeating, exaggerating, and elaborating the affinitive facial expressions, utterances, and body movements that they use casually and unremarkably with adults. As infants become older and require less predictability and soothing, another, fifth operation or device is added by mothers: the deliberate manipulation of the baby's expectation—as in "This Little Piggy" or "Peek-a-Boo."⁷ These five devices effectively attract, sustain, and shape the baby's attention and response to the affinitive message.

Because these same devices are used by artists in all media to similar effect, thereby attracting, sustaining, and shaping the attention and response of an audience (although in adult art, of course, the message may be other than loving or affinitive), I regard them as aesthetic or, if you will, "proto-"aesthetic.

It might seem surprising that human infants are born with the readiness to respond to proto-aesthetic manipulations of visual, vocal, and gestural signals. Yet, even some animals respond to the first four devices—simplification, repetition, exaggeration, and elaboration. As described by ethologists (e.g., Eibl-Eibesfeldt 1970; Huxley 1914; Smith 1977; Tinbergen 1952), such responses occur in so-called "ritualized behaviors" that typically appear in potentially fraught social situations, such as courtship or aggression. A ritualized signal conveys information about the motivation and intention of the signaler, without his having to go to the effort of an actual

7. "Manipulation of expectation" here differs from the "violations of expectation" (described at the end of section 2 as a principle of salience) by being deliberately playful and affectionate rather than accidental or unintentional. (See further discussion in section 5.)

mating attempt or the risk of a fight. Such signals are a kind of coded communicative device that allows the recipient to decide his or her next move without either animal being committed to an action with consequences.

An example of a ritualized behavior that is familiar to almost everyone is the peacock's courtship display, intended to entice peahens. He first scratches on the ground as if he has found food and, if that attracts a hen, he bows before her, as if more specifically indicating food. If she comes closer to investigate, he moves his head rapidly back and forth in her direction, and then spreads his magnificent (exaggerated in size and elaborately colored and patterned) tail feathers, quivers them repeatedly, and takes a few steps backward. He then bows his fanned-out tail forward and holds his neck up with the beak still pointing downward. All these movements are stereotyped or formalized. They lack the casual appearance of ordinary food-seeking, of random looking here and there, or of ruffling one's feathers for self-care, comfort, or thermoregulation.

Evolutionary changes that occur in the course of ritualization ensure that a resulting signal is prominent, distinctive, and unambiguous, so that it will not be confused with its unritualized prototype or precursor (e.g., casual scratching of the ground for food and looking down for food). Compared with the original instrumental or "ordinary" precursor behavior, ritualized movements become *extraordinary* and thus attract and sustain the attention of the recipient. They typically become (a) formalized (simplified, stereotyped),⁸ and (b) repeated rhythmically, often (c) with a typical intensity, that is, with a set regularity of pace. The signals are frequently (d) exaggerated in time (given a longer duration) and space (enlarged), and (e) further emphasized or elaborated by the development of special colors or anatomical features. All these characteristics are evident in the peacock's courtship display, as just described.

Elsewhere I have suggested that early interactions between mothers and infants can be considered as a ritualized behavior in humans—one that both partners are predisposed to engage in, that is, to elicit and respond to

8. During the twentieth century, as zoologists identified and described the evolutionary process of ritualization, they gave its components slightly different names. For example, what I and others (Huxley 1914; Smith 1977) call *formalization*, has also been called *simplification* (Eibl-Eibesfeldt 1970; Tinbergen 1952), *stereotypy* (Eibl-Eibesfeldt 1970), and *schematization* (Tinbergen 1952). These terms refer to the same phenomena—sustaining a pose or expression, somewhat mechanically or regularly repeating a movement, and otherwise making clear that the behavior is to be regarded and understood as being set apart (or different) from its prototype. In the context of this article, I consider these various descriptors to comprise one class of related terms, all of which refer to formalizing (also "composing" or "patterning") a group of ordinary words, sounds, or visual elements, so that they become extraordinary, i.e., different from everyday discourse or appearance, as in art.

(Dissanayake 1999, 2000). As described in section 2, the visual, vocal, and gestural signals used spontaneously and universally by mothers to communicate their positive affective state and affiliative intention to babies are all derived from spontaneous, casual, everyday behaviors universally used by adults to indicate affinity or readiness for contact with each other. As in animal ritualized behaviors, the visual, vocal, and kinetic signals of babytalk are simplified (e.g., patterned, formalized), repeated, exaggerated, and elaborated. Just as the peacock leads the courtship interaction, the mother provides the ritualized signals to which the baby, like the peahen, is inherently ready to respond. (The peahen can be said to attract or release the male's ritualized attentions simply by being adult and female; the infant attracts the mother's signals by its irresistible helplessness and responsiveness.)

The mother-infant example is additionally noteworthy for its close temporal coordination of actions and responses, which, because it takes place in time, makes possible the manipulation of expectation and hence the shaping of emotional response. Importantly, also, the dyadic coordination leads to a more enduring behavioral and emotional conjunction of the pair than generally appears in the periodic bonding rituals of most other animals. (Those adult pairs that mate for life, though, engage in coordinated vocalizations and movements that serve to maintain their bond over time.)

Let us now consider how the just-described proto-aesthetic devices, to which infants and some animals are innately predisposed, might have contributed to the deliberate cultural creation of literary and other arts.

4. From Proto-Aesthetic Devices to the Arts: The Invention of Ceremonial Ritual

Humans have a basic motivation to achieve some level of control over the events, resources, and relationships that are significant in their lives (Geary 2005) and become distressed when this control is lacking. During human evolution, hominin brain organization eventually enabled what evolutionary psychologists have called "decoupling" or "metarepresentation" (Cosmides and Tooby 2000) or "mental time travel" (Geary 2005). That is, instead of reacting to events as they occurred or following the promptings of instinct, as other animals do, ancestral humans became at some point able to remember past events that were desirable or undesirable and then try to control—recreate or avoid—them in the future. One outcome of metarepresentative ability may have been the invention of religious ceremonies (rituals), which, whatever else they may be or accomplish,

are typically intended to influence supernatural agents to act in beneficial ways—ensuring success in endeavors such as hunting or warfare, healing the sick, attaining or preserving prosperity and avoiding evil, securing fertility, passing from one life stage to another, and so forth (Malinowski 1954 [1925]). These occasions are all times of transition or liminality, betwixt and between, when things can become better or worse, when outcomes are uncertain (Turner 1969; van Gennep 1960 [1909]). I propose that religion and its ceremonies were initially (and, in many instances, still are) responses to existential anxiety and that reliance on proto-aesthetic devices helped to relieve that anxiety (see also Sosis 2009). This suggestion gains credibility from the fact that ritualized behaviors in other animals, using these devices, also occur in situations of ambiguity or uncertainty, such as greeting, appeasement, or the desire to mate, where the other animal's response is unpredictable: it may be either friendly or aggressive (Eibl-Eibesfeldt 1970; Tinbergen 1952).

It is well attested that religion is a universal characteristic of humans and that ritual lies at the heart of all religions (e.g., Alcorta and Sosis 2005; Durkheim 1965 [1915]; Rappaport 1999; Tambiah 1979; Turner 1969). Although ritual practices are cultural inventions, they occur in all human groups, indicating that they are biologically predisposed. At the time that humans invented ceremonial rituals they possessed an evolved capacity to make and respond to proto-aesthetic devices, which had already worked to shape and manipulate emotion in mother-infant interaction. In ceremonial practice, bodies, surroundings, sounds, movements, and eventually language, motifs, artifacts, and ideas could be subjected to further deliberate development of affective aesthetic⁹ devices of formalization, repetition, exaggeration, elaboration, and the manipulation of expectation. Thereby one could attract attention, sustain interest, coordinate group effort, and provide emotional excitement and satisfaction. (For more detailed descriptions of this process, see Dissanayake 2009a, 2009b.)

Today we call these behavioral elements of ceremonies song, literary or poetic language, mime, performance, and dance—arts. Without arts, there is no ceremony. As with the peacock's vibrating tail, these behaviors in time can be made even more notable and effective by the addition of visual effects that are themselves based upon formalization, repetition, exaggeration, and elaboration of colors, shapes, materials, and subject matter. Through a ceremony's art practices, its messages or meanings are reinforced and the practitioners convinced that they are addressing

9. When intentionally used to make ordinary things extra-ordinary, these devices can be called aesthetic, without the modifier *proto*-.

the matter at hand. Belief in religious dogma may or may not be adaptive but the vehicles that installed and reinforced the beliefs, the aesthetic devices developed and practiced in religious ceremony, could inadvertently become adaptive, as I will now describe.

Although cultural anthropologists customarily discuss ritual in terms of specific material artifacts, cognitive beliefs, and social functions, some evolutionists have suggested that it is ritual *behavior*—participation—that creates believers (e.g., Sosis 2003). Without ritual indoctrination and practice, religious beliefs lack both emotional salience and motivational force. Thinking or even saying “I hope I don’t get killed in battle” is less emotionally and cognitively persuasive than joining with one’s fellows in temporally organized activities—such as dances and chants—that are believed to ensure victory. As Radcliffe-Brown (1948 [1922]: 234) pointed out, ritual achieves its enculturating and unifying effects by “producing changes in or structuring feelings” (see also Rappaport 1999).

Building upon the ideas of both Sosis and Radcliffe-Brown, I submit that “ritual participation” should be thought of as “*arts* participation” and that participating in the arts is ultimately based on the proto-aesthetic features that appeared first in mother-infant interaction. That is, I suggest that emotional/cognitive change and structuring occur, as in mother-infant interactions, through participation with others in sequences of formalized and exaggerated, dynamically varied, often emotionally evocative and heightened kinetic, visual, and vocal behaviors—what we now call the temporal arts.

Whether or not a particular ceremony achieved its intended result of, say, attracting game or promoting fertility, I submit, it provided at least two related adaptive benefits that affected individuals and groups. First, by participating in a culturally sanctioned activity, individuals had “something to do” in uncertain circumstances and this relieved the detrimental effects of anxiety. Neuroendocrinologists report that the production of “stress hormones” over prolonged periods of emotional distress and anxiety compromises a wide range of bodily functions, including energy release, immune system activity, mental activity, digestive function, growth, tissue repair, as well as reproductive physiology and behavior (McGuire and Tiger 2009; Sapolsky 1992). Interestingly, several studies report that ritual and artistic behavior increase at times of resource stress, as in populations of Late Dorset (Taçon 1983), prehistoric Arnhem Land (Taçon and Brockwell 1995; Taçon, Wilson, and Chippindale 1996), Mimbres (Brody 1977: 210), and Numic-speaking peoples of the American Southwest (Garfinkel, Marcom, and Schiffman 2003).

In addition to the psychological reassurance of having “something to do” at uncertain times, coordinated group activity itself reinforces in participants a sense of emotional and cognitive (as well as physical) control and of coping through social support (Caporael 1997). Such activity thereby gives a sense of group concord or bonding, so that important concerns will be addressed with confidence and unity (Alcorta and Sosis 2005; McNeill 1995). As with mothers and infants, affinitive emotion and accord among participants are thus engendered and sustained (Dissanayake 1999; 2000).

5. Proto-aesthetic and Aesthetic Devices: Implications for Literary Study

My hypothesis of the evolutionary origin and adaptive value of human aesthetic behavior, briefly outlined in the previous three sections, has been articulated and refined over three decades. Most recently I have called it the *artification hypothesis* (Dissanayake 2009c). It proposes that the arts can be conceptualized as “behaviors” (in an ethological sense). That is to say, rather than treating the arts as artifacts, works, events, and so forth, I consider art(ifying) as a “behavior” of making ordinary experience extraordinary (Dissanayake 1995 [1992]).¹⁰ It is something that people do or, better, it is *a way of* doing something that makes that something art (or what is commonly considered to be art). When artists artify, they use the five operations (introduced, described, and called *aesthetic devices* in section 3) that became part of adaptive human behavior more than a million years ago, albeit in the different context of mother-infant interaction.¹¹

Such a view is likely to seem strange and irrelevant to literary and humanistic scholars. In my opinion, however, it contributes fresh thinking to a number of theoretical subjects, including—as will appear in this article—narratology in particular and literary study in general (see sections 5.1 and 5.2).

Let me first say that I am aware that the aesthetic devices whose precursors in mother-infant interaction I have described in section 3 will not seem of earth-shaking or path-breaking importance to literary theorists. Indeed, they are so obvious that they may appear “ridiculously babyish,” as Monika Fludernik (1996: 18) said of her adoption of frame theory

10. This transformation is not unlike (though more theoretically comprehensive than) Arthur Danto’s (1981) “transfiguration of the commonplace.”

11. Again, these operations include formalization, repetition, exaggeration, and elaboration. The fifth device, manipulation of expectation, does not characterize ritualized behaviors in animals, although it is highly characteristic for mother-infant interaction with infants old enough to play suspense games such as “Peek-a-Boo” or “This Little Piggy”—that is, at about three months (Trevvarthen 1999). With expectation, the three principles of salience arise and have their effects.

whose connections are taken for granted as part of one's bodily life in the world. The first four devices (sometimes given slightly different descriptive names, as noted in footnote 8 regarding "formalization") have been noted by ethologists for nearly a century (e.g., Eibl-Eibesfeldt 1970; Huxley 1914; Smith 1977; Tinbergen 1952) and later by biological anthropologists (e.g., Watanabe and Smuts 1999). However, although these four devices are commonplace and easily observed in the ritualized behaviors of birds and animals, no scholar in evolutionary aesthetics or other biological approach to the arts has noted their potential relevance to human aesthetic behavior or response. In their ethological formulation, needless to say, neither have scholars in the humanities.

All five aesthetic devices derived from mother-infant interaction have nevertheless been identified and discussed in specifically aesthetic or literary contexts by diverse scholars, using the same or similar (if often fancier) terms. The universal aesthetic principles cited by the neuroscientists Ramachandran and Hirstein (1999) for visual art can be distributed between two of the aesthetic devices—formalization (grouping, binding, contrast extraction, perceptual problem solving, symmetry) and exaggeration (peak shift, super-normal stimulus, caricature). Closer to the interests of literary scholars, the Russian Formalists famously considered estrangement and foregrounding (accomplished by all five devices) as primary ways to create specifically literary language (Jakobson 1971; Mukařovský 1964 [1932]; Shklovsky 1965 [1917]). Additionally, three of the four ways in which poets develop poetic metaphor, according to Lakoff and Turner (1989), are also covered by aesthetic devices, namely: extension (my exaggeration and repetition), elaboration, and questioning (manipulating expectation).

In their indispensable work on the nature of literary narrative, Robert Scholes and Robert Kellogg (2006 [1966]) mention, in passing, various ways in which narrative is made artful, such as amplifying and adorning (*ibid.*: 143), shaping, ordering, patterning (*ibid.*: 216–18), neatness of form (*ibid.*: 223), and repetitions of structure (*ibid.*: 345). Similar examples from other scholars are frequently to be found.

Meir Sternberg, in his classic study of temporal ordering in fiction (1978), lists twenty "principles of expositional distribution" in Homer that encompass all five devices, although with different (but recognizable) nomenclature (*ibid.*: 105–6). He also notes the importance of manipulation of expectation (by means of gaps, prolongation, and retardation [*ibid.*: 51, 163, 165]) and of surprise in Austen and Fielding (*ibid.*: 142, 262) and in later work (e.g., Sternberg 1992) proceeds to generalize three interlocking kinds of narrative interest—suspense, curiosity, and surprise—that contribute to aesthetic effect. Subsequently, Sternberg (especially 2003a, 2003b) has

developed his notion of these three narrative universals (also called sometimes *master interests*) in ways that find resonance here, since they rely on sensitivity to temporal unfolding and the expectations that it engenders. These might be seen to hark back to the “three principles of salience” that were outlined at the end of section 2—expectable ongoing regulation, disruption of expectation, and heightened affective moments—that internalize (organize, represent) intersubjective experience in an infant’s memory (Beebe and Lachmann 1994). It is not difficult to extend these principles of salience to later experiences of literary narrative and the other arts, particularly those that are structured in time, so that expectation is aroused—creating suspense, curiosity, and surprise—and perhaps violated. In an evolutionary scenario, too many (or too severe and irreparable breaches) would not be adaptive to infants; however, a mother’s deliberate or inadvertent opening of temporary gaps that the infant eventually is able to cope with (or the duo jointly to repair) could be adaptively beneficial both with regard to mutual intimacy and the development of an infant’s abilities to trust the mother, “wait” for satisfaction, and feel a sense of mastery or control. Heightened affective moments are notable in aesthetic experience too, and it is of interest to learn that they occur in young infants (as well as experienced aesthetic perceivers) who engage with unforgettable performances (actions) by immediate (or, in the case of modern aesthetic experience, sometimes distanced) others.¹²

Pointing out that these aesthetic devices (i.e., the five operations and the three principles of salience) have deep roots in our ancestral and individual nonverbal past and that they are affecting because of their biological importance may not change the way that literary scholars do their work. I hope, however, that they gain a new appreciation of the underlying psychobiological reasons for the devices’ ubiquity and potency.

5.1. Affect in Narrative: The Overlooked Elephant on the Cognitivist Playground

In current academe, cognitive science (briefly, the scientific study of the brain/mind as it perceives and processes information from the world and acts upon it) has colonized many of the subjects that have traditionally been the province of psychology and philosophy. For some decades, linguistics (the study of language) has significantly influenced the study of literature (including some trends in poetics and narratology) and given it cognitive coloration. Scholars in fields called cognitive poetics, cognitive

12. What I say in this paragraph also seems applicable to ceremonial ritual, which, as described in section 4, is unfailingly composed of arts (Dissanayake 1999).

aesthetics, cognitive narratology, cognitive linguistics or cognitive rhetoric have produced stimulating, if rhetorically intricate and analytically complex, bodies of knowledge. However, I contend that cognitive *anything*, with its emphasis on minds taking information in and figuring things out, too easily overlooks the effects on our thinking of nonverbalizable states such as interacting with or feeling sympathy for others or emotionally engaging in aesthetic experience.¹³

A generation ago, before the “cognitive revolution” was much known outside the fields of psychology or artificial intelligence, a few scholars began to describe a number of interesting differences in thought and expression between “oral” and “literate” minds and cultures (e.g., Goody 1977; McLuhan 1962; Ong 1982). Although these early studies can be criticized for being too concerned with broad differences and too little concerned with subtleties and exceptions, their general message seems undeniable: learning to read and write has distinctive and irreversible effects on the human mind.¹⁴ The ability to store symbols externally (rather than having to retain them in memory) affects both individual cognition and the larger cultures in which literate individuals live.¹⁵

It is not surprising, then, that literary study, based as it is on written texts, is influenced by the global effects of literacy and its stepdaughters, language and linguistics, which privilege detached, fine-grained, and reflective analysis of structural features in a visuosymbolic medium over sound and the rhetorical use of speech. Mother-infant interaction itself reminds us that linguistic theory, the philosophies of mind and language, and modern literary study (insofar as it derives from these fields) may forget that language as spoken also has crucial “oral” and paralinguistic properties. These are the “expressive” (sometimes called “prosodic”) aspects of language—intonation, vocal contour, stress, volume, and other dynamic and expressive features that add emotional coloration and meaning to an utterance, allowing the hearer to infer and respond to a speaker’s feelings, motives, and other states that may not be verbally expressed (Miller 1990;

13. Only after completing this article did I become aware of Meir Sternberg’s (2003a, 2003b) meticulous examination of many cognitivists’ attempts to appropriate the subject of “narrative.” Sternberg’s two recent lengthy articles reveal numerous omissions and misunderstandings in cognitivist work on narrative, due in large part to one specialty looking at another through its own “field” glasses—a predilection that I, as an outsider to literary theory, well know can be dangerous. Sternberg’s (e.g., 2003a) detailed studies of cognitivist (and other) scholars who disregard “affect” support and augment my claims here.

14. This statement does not mean that remnants of preliterate thought and experience no longer exist in or affect literate people.

15. Merlin Donald (1991) uses the term “Theoretic Culture” to describe these societies, and contrasts it with earlier Episodic, Mimetic, and Mythic Cultures.

Panksepp 1998: 334). As we have seen in the case of infants, a mother's speech is *purely* paralinguistic.

For its part, cognitive science, concerned with language and the mind as they relate to thought, also disregards emotion or affect, even though neuroscientists (e.g., Damasio 1994; Panksepp 1998, 2009) have shown the inextricability of emotion and thought and even though cognitive science itself does not in theory separate "rational" from "emotional" aspects of mental life. Although literary scholars occasionally pay lip service to the existence of oral literature, it may not be fully realized that a minute proportion of all humans throughout history have been readers or writers, yet they nevertheless invented and responded to literary language. Awareness of the affective, prelinguistic, and preliterate substrates¹⁶ of human arts is necessary to a full appreciation of artful human communication.

In recent years there have been influential efforts to travel in this direction—to "the body" or "the natural," as in the "embodied mind" (e.g., Lakoff and Turner 1989) or "'natural' narratology" (Fludernik 1996). Such paradigms, however, remain yoked to written language and thus easily lose sight of the power and importance of its paralinguistic features. Here I agree with neuroscientist Jaak Panksepp (2009: 146), who reminds his cognitive neuroscience colleagues that "our capacity for complex cognitive evaluation of our behavioural choices and our place in the world is dependent on a host of pre-humanoid affective feelings that sink deeply into the ancient history of vertebrate brain evolution" (not surprisingly, Panksepp's [1998] subject is *affective*, rather than cognitive, neuroscience). Even if we leave aside pre-humanoid or vertebrate feelings, prelinguistic infants and preliterate adults have aesthetic or, in the case of infants, proto-aesthetic responses that are affective as well as "cognitive." And so do we twenty-first-century hyperliterate.

5.2. Affect in Narrative: Prelinguistic Residue

I have defined narrative in this article in its simplest sense as temporally ordered mimetic communication; others start with that basic sense, but restrict narrative communication to representations of events and experience (e.g., Branigan 1992: 3) or, rarely, of experientiality or consciousness (Fludernik 1996: 26). Scholes and Kellogg (2006 [1966]: 4) say that narrative requires "only a teller and a tale." Although important (and sometimes even the most important) aspects of various data, representations, events,

16. By *substrate* I do not refer to the psychoanalytic unconscious of Freud or Jung (as in "the labyrinth of the psyche" [Scholes and Kellogg 2006: 202]) but to evolved adaptive psychological predispositions, as described in section 1.

and experiences are not easily transferable into words, such unsayables may be too easily overlooked when the representations and information of narrative theory are treated primarily as verbal and written. The paralinguistic features of spoken language cannot represent events or stories but only a narrator's feelings about—emotional account of—these stories.¹⁷ My emphasis on paralinguistic features is meant to remind scholars of their relevance to narrative theory.

In this regard, it will be remembered that baby talk and ritual ceremony structure (or pattern) and produce changes in feelings. *Pace* Scholes and Kellogg (ibid.: 133), bards in preliterate societies had more to do than “sing the tale”: they had to attract and hold the attention of their audience. This entailed not only representing data, events, or experience, but engaging their hearers' emotions in general as well as their suspense, curiosity, and surprise. It is no wonder, then, that oral performances are saturated with paralinguistic aesthetic devices. Their residue remains today in such features as the rhythms and meter of written poetry and in its silences, onomatopoeia, the attention-holding effects of alliteration or assonance, wordplay, and in the nonverbal associations evoked in us by the words as we read them. Yet, to my knowledge, apart from theorists of sound symbolism such as Shklovsky (1965 [1917]), Jakobson and Waugh (1979), and other Russian Formalists,¹⁸ Robert Greer Cohn (1965) on Mallarmé, and, more recently, Miall and Kuiken (1994) and Reuven Tsur (1992a, 1992b),¹⁹ few contemporary theorists and scholars have paid attention to sound symbolism and related nonverbal linguistic features, such as “specific configurations of feeling” (Miall 2006: 6).

As in ritualized behaviors in animals, the five proto-aesthetic devices used unselfconsciously by mothers in baby talk make specific signals *salient*.

17. This “telling” may include paralinguistic features that indicate how the teller wants the hearer to feel, as in telling (or reading) a story to a child, using special emphases (elongation of vowels, changes in volume, emphasis or stress on words, and so forth) without oneself having the appropriate feelings about, say, Red Riding Hood's predicament. Branigan's characterization of narrative appears in a book about film, which, being visual and audible (not read, and thus immediate to these senses) is compatible with my descriptions of proto-aesthetic devices, as they occur in maternal narrative to infants, or of the narrative of a ritual ceremony.

18. As is well known, the Russian Formalists considered patterns of sound in poetry to be of equal or more importance than its semantic components (cf. Erlich 1981: 212–29; Miall and Dissanayake 2003: 354; Steiner 1984: 149–54). They analyzed sound structure in poetry, claiming that its very strikingness and unfamiliarity de-automatized and revitalized the sound of language in comparison with its routine and economical use in everyday discourse.

19. Reuven Tsur (1992b: 58) notes in Baudelaire's “Correspondances” (among numerous other examples) “a network of highly significant sounds, rich in effects, but only semiconsciously perceived.”

They attract and sustain attention. Saliency—prominence or emphasis of any sort—is potentially *emotional*. Normally we spend our daily lives in a generalized, unremarkable state of ordinary consciousness: we experience not so much “emotion” as what might be described as mood fluctuations, whose eddies are more or less good (positive), bad (negative), or indifferent (Watson and Clark 1994). Emotion enters (or potentially enters) the scene when there is some discrepancy or change from what is expected, provoking an interest (or curiosity). We appraise a salient or novel cue, anticipating what it means for our vital interests (Ellsworth 1994).

I suggest that we may do this tacitly in our reading of literature as well. In their studies of emotion in music, Huron (2006) and Panksepp and Bernatzky (2002) describe affect-laden subcortical appraisals of tones or sequences in musical passages: they momentarily induce a sense of fear or abandonment that is immediately modified by more considered assessments in the prefrontal cortex. Although the cortically mediated experience is to most people the most aesthetically rewarding, the initial preconscious “alert” contributes to the overall emotional response—producing, for example, frequently attested “musical chills.” Similarly, David Miall and Don Kuiken (1994) have examined literary reading, identifying salient or foregrounded places in prose texts (often the same for nearly everyone) where readers mark their “response of feeling” (see also Miall 2006, 2007). Their work gives empirical support to Russian Formalist ideas about defamiliarization (*ostranenie*), and extends the Formalists’ concern with the affective experience of literature.

Verbal images and phrases may, like baby talk, have music-like associative and nonverbal *emotional* multivalence, as described by Cohn (1965) regarding “symbol clusters” in Mallarmé. These are reminiscent of what psychologist of infancy Daniel Stern (1985, 1999, 2010) has called “vitality affects” and “forms of vitality” (as distinct from “categorical” affects like anger, joy, sadness, fear, and so forth): patterns or changes over time that have *supramodal* qualities of shape or contour, intensity, motion, duration, and rhythm. These vitality affects exist in our minds as dynamic forces that are not bound to any particular feeling or event—sensations of surging, fading away, fleetingness, buoyancy, tensility, jerkiness, sudden explosiveness, or being shaken to the core, which exist in visual, aural, and kinesic modes.²⁰

20. A similar scheme (“modes and vectors”) for understanding how the use of symbols is prepared for in early life was proposed by Howard Gardner (1973), based on Freudian theory. My earlier work has also been concerned with these foundational prelinguistic experiences (Dissanayake 1995 [1992]: 182–84, 2000).

In addition to nonverbal multivalence, parent and infant respond to each other's signals "multi-modally." That is, visual (facial expressions), gestural (body movements), and vocal modes of expression all occur simultaneously within a mutually regulated tempo and pulse (Malloch and Trevarthen 2009a), which includes rate, rhythm, pausing, reaction time, interruption, and turn-taking (Jaffe et al. 2001). These modes and vectors ("whats" and "hows") are processed neurally by the infant all at once (Schoore 1994) with "intermodal fluency" (Stern 1985). In literature and the other arts, such temporal and dynamic supramodal and multimodal features contribute to the production of emotional analogy traceable to richly affective "association areas" of the brain. Such an analogy arises, for example, when a multi-consonantal and multisyllabic passage—as opposed to one that trips lightly—suggests seriousness, weightiness, or difficulty.

As described in section 5, my "artification" hypothesis views art as a behavior: as something that people *do*, a *way* of making something art. "Artifiers" use the five operations of multimodal interplay (which evolved as bonding mechanisms between ancestral mothers and their helpless infants) and the three "principles of salience" (derived from infants' expectation of congruent behavior from their mothers). My notion of artification has relevance to what has been a central theme in narratology—the distinction between story and discourse, what happens (*fabula*) and the presentation of what happens (*sjuzhet*) or the *way* that something happens in the work.

Narratology's view of the "way" in which a discourse unfolds has been primarily concerned with the structure or organization of the events and experience in the literary presentation. In contrast, or in addition, the scheme offered here has emphasized the prelinguistic or preliterate substrates of narrative/discourse/poetics. My scheme describes affective (as well as structural) ways of giving the story emotional meaning and experiential resonance by means of aesthetic operations—formalization, repetition, exaggeration, elaboration, and manipulation of expectation (which includes the three principles of salience). Even in themselves, apart from the subject matter or plot of a story, these devices attract the attention of an audience (or readers), sustain their interest, and shape their emotional response in nonverbal (visual, vocal, and gestural) mediums as well as in practiced aesthetic or analytic responses to literary narratives.

Certainly a "prelinguistic and preliterate" approach to literature is unfashionable and difficult insofar as it requires familiarity with extraliterary fields of knowledge. Yet, as literary narratologists go about their analyses and interpretations, some might wish to be reminded that their

subject—narrative—has not only verbally-expressed linguistic meaning but bodily-emotional affective effects, which serve as substrates for the narrative or story as verbally articulated. Without the bodily-emotional feeling, few would bother to tell or experience stories. Although writing has unquestionably enriched the resources of poetry and other literary forms, the prelinguistic and preliterate dispositions described here remain affecting and effective vehicles for the emotional power of literary discourse.

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