Philosophy and Literature 25.2 (2001) 335-346

[Access article in PDF]

Aesthetic Incunabula

Ellen Dissanayake

Incunabula *n. pl.* (f. L swaddling clothes, cradle):
Early stages of development of a thing.

Over the past thirty years, developmental psychologists have discovered remarkable cognitive abilities in young infants. Before these investigations, common pediatric wisdom accepted that apart from a few innate "reflexes"--for crying, suckling, clinging, startling--babies were pretty much *tabulae rasae* for their elders to inscribe as they (and their cultures) decreed. Today, however, it is well established that newborns come into the world with decided preferences and motivations, so that one can speak intelligently of "neonatal" (or even "fetal") psychology. [1]

The demonstrable existence of inherent psychological capacities in newborns and infants has important implications for twenty-first-century literary theory, which--also over the past thirty years--has operated under the theoretical assumption that all knowledge and experience are mediated by culture and that there is therefore no "natural" psychological or emotional experience. 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 socially constructed. Rather, adult psychology and experience grow from and build upon inborn motives and preferences. Literary theorists can no longer ignore contemporary knowledge in psychobiology, ethology, and evolutionary psychology that directly pertains to conceptualizing their subject.

The innate capacities of newborns predispose them specifically for social and emotional interaction with others, not simply for soliciting **[End Page 335]** their physical care. For example, newborns prefer human faces to any other sight (high-contrast colors, cartoon characters, cute stuffed animals) and human voices

to any other sound (soft music, tinkling bells, The Chipmunks). [2] They can imitate face, mouth, and hand movements and respond appropriately to another person's emotional expressions of sadness, fear, and surprise. [3] At birth, infants can estimate and anticipate intervals of time and temporal sequences and remember these temporal patterns, categorizing them both in time and space and in terms of affect and arousal. [4] By six weeks of age, these perceptual and cognitive abilities of normal infants permit them to engage with adult partners in complex communicative interchanges--the playful behavior that is commonly or colloquially called "babytalk."

Babytalk is not the trival or inane pastime that it might superficially seem but, rather, a cradle in which nascent psychosocial capacities can emerge and be developed. Interestingly for literary theory, babytalk achieves these effects through fundamentally aesthetic means. Adult-infant engagements are noteworthy for their use of stylization (formalization or simplification), repetition, exaggeration, and elaboration in visual, vocal, and gestural modalities. I call these "aesthetic incunabula"--that is, sources (or early developmental stages) of the operations used by artists in all media to attract attention and to provoke and manipulate emotional response. The existence of sensitivities to such features in the first months of life suggests that humans are born with natural (innate, universal) predispositions for aesthetic engagement from which cultures and individuals can go on to create their myriad elaborated forms of artistic expression.

Although babytalk varies in minor details among individuals and cultures, it can be described in all instances as a *multimedia performance.* That is, it contains not only "talk" (or the characteristic high-pitched, undulant, breathy, patterned, repetitive vocalizations with pauses called "motherese," "parentese," or "infant-directed speech"). Along with the utterances are peculiarly stereotyped, repetitive, and exaggerated facial expressions (such as widened eyes, uplifted eyebrows, sustained open mouth, and smiles), head movements (e.g., distinct bobs backwards, slow rhythmic nods, movement toward and away from the baby), and gestures (such as touching, stroking, and rhythmic pats) to which infants respond with their own vocal sounds and face and body movements and, in many societies, sustained mutual gaze.

Babytalk is not only a performance, but a *duet* that incorporates both synchrony of behavior and alternation (or turn-taking)--activities that **[End Page 336]** are made possible by the infant's remarkable inborn sensitivity to temporal sequence and pattern. Microanalyses of videotaped interactions (at 24 frames/second) show exquisitely conjoined engagements, 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." [5]

It is sometimes suggested that we exaggerate and repeat the facial expressions and sounds made to babies in order to better attract and hold their immature attention. But this assumption leaves out the baby's critical role in the interaction.

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 present to them. With their smiles and coos they reward us for speaking and acting in a manner that we would not dream of using with anyone else.

Understanding something of the neural processing of babytalk also bears on its contribution to later aesthetic experience. To begin with, sensory stimuli from the partner's face, voice, and body converge in the infant's orbitofrontal cortex, which is involved in the formation of *crossmodal* (or intermodal) associations and which projects extensive pathways to subcortical motivational and emotional integration centers in the brain. [6] That is, in subjective experience, what is seen, heard, and kinesthetically felt merge and partake of each other.

At the same time, dynamic *supramodal* features of intensity (such as, louder-softer, larger-smaller, faster-slower), contour, rhythm, and duration--all of which apply to voice, gesture, and facial expression--are also part of this package. [7] For example, a mother's upward head and eye-widening movements may imitate the contour of her infant's vocalization, or the baby's arms and legs move faster as the parent's vocalizations intensify.

It is also important to note that even though mothers "talk" to their babies, the multimodal messages in early interactions are of course *nonverbal.* What mothers convey to infants are not their words about the baby's looks, actions, and digestion but rather positive affiliative messages about their 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 decipher the "meaning" of such communications. **[End Page 337]**

In babytalk, then, mothers or caretakers subtly adjust rhythmically patterned and dynamically varied visual, vocal, and gestural behaviors to the infant's own changing visual, vocal, and gestural expressions of emotional state. These interactions, as just described, display many obvious and intriguing components of what we call the arts, and psychologists of infancy have not failed to use metaphors from the arts to describe them--e.g., as a "dance," "performance," or "duet." Some have specifically noted babytalk's "musicality." [8] Certainly the voice of motherese is melodic, and the temporal nature of synchronization and turn-taking in voice and movement suggest music, as the rhythmic and formalized movements of face, head, body, and hands suggest dance or performance. Moreover, the crossmodal, supramodal, and nonverbal aspects that are characteristic of babytalk are important elements of adult experiences of the arts, as is the expression and sharing of emotion.

But are these features anything more than metaphors or fortuitous but ultimately superficial resemblances? That is, how can one make the leap from a feature's

use in a baby's repertoire to its use in an instance of art? After all, we perceive other infant actions as variously performance-like (deliberately banging on a surface), dance-like (kicking rhythmically), or musical (babbling) without positing that they are directly related to the arts they resemble.

In order to answer this question, we can examine segments from a transcript of a mother's utterances, here a Scottish mother with her eight-week baby boy, which contains a plethora of literary or poetic features. Unfortunately, the variety of melodic, dynamic (both vocal volume and speed), and rhythmic or metric features can be indicated only superficially in a written transcript. Nevertheless, other undeniably literary features of form, both verbal and nonverbal, can be discerned. (Space does not permit inclusion of the entire interchange of over a hundred lines, forty-three of which are composed of only one to three words).

A reader of the transcript can quickly see that Liam's mother's utterances fall easily into *stanza-like* forms, each with a general emotional mood or *tone* and *underlyingtheme*--"tell a story," "yawns and ears," "hiccups," "tickly feet." Sometimes transitional material intervenes, but the stanzas or "bouts" are typically *framed* ("Oh, what you say?" and "Come on then") with recognizable *closure* (stanza two ends with "Yes"; the hiccups stanza ends with "Too much milk," a pause, and a final "Too much milk"). Also visually evident are standard structural **[End Page 338] [Begin Page 340]** poetic devices such as *repetition* (of words--"Oh. Oh. Oh"--and phrases--"Tell me more"), *hyperbole* or exaggeration ("Ohhhh, *Big* yawns!"; "Oh! Serious face"), *parallelism* (big yawns, squashed ear; serious face, tickly feet), and *elaborations* (e.g., in the tickly feet sequence). Typically, the repetitions are enlivened with *variations* in word or phrase, as well as by means of vocal or rhythmic inflections characteristic of performed (oral) poetry. One can even find internal *rhyme* (e.g., story, more [repeated twice]).

In a close phonetic and metrical analysis of twenty-four lines of babytalk (thirteen of which are transcribed here), David Miall discovered that the verse pattern was affected primarily by the mother's response to the baby's behavior. [9] When she perceived that he was engaged, her pace of delivery was relatively slow, with repeated strong stresses created by short silences between each phrase. When he was distracted and she attempted to re-engage his attention, she used various signalling devices--e.g., a midline pause and the baby's name ("Do you? Liam. Do you . . ." in an eleven-line stanza omitted here) or a long pause at midline followed by a quickened tempo ("Big yawns! [p] Oh your ear's all squashed. Your ear's squashed)--that effectively serve as "foregrounding." [10] It is interesting that the voice melody and tone quality of predominant vowels also differed in the sequences perceived as engaged (proximal) and distracted (distal). One can say that these literary devices have counterparts in the real emotional world of human communicative interaction, as well as (*mutatis mutandis*) in written poetry.

As described earlier, the simplifications, repetitions, exaggerations, and elaborations--the aesthetic incunabula--of babytalk are used by adults because they effectively attract, sustain, and shape or manipulate the baby's attention and

response. In this regard, they differ from instrumental actions like ordinary speech, as an infant's interactive gestural and vocal responses differ from normal, solitary banging, kicking, and babbling. Interestingly, these aesthetic incunabula of babytalk resemble ritualized behaviors in animals, which have evolved as special kinds of communicative signals.

An elementary acquaintance with the biological (evolutionary) process of *ritualization of behavior* in animals clarifies how aesthetic incunabula are eventually used in literary and other aesthetic contexts. Generally speaking, the familiar term "ritual" is used by anthropologists to describe formalized or prescribed behavior performed by a cultural group in contexts where the acts are hoped or believed to influence **[End Page 340]** invisible beings or powers for particular desired ends. The term "ritualized behavior" is different. It is used by ethologists (students of animal behavior) to indicate formal or stereotyped communicative behaviors in animals that have evolved in a specific manner (called "ritualization").

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, he moves his head rapidly back and forth in her direction, and then spreads his magnificent tail feathers, shakes them, and takes a few steps backward. He then bows his fanned-out tail forward and holds his neck upstretched with his beak 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 or comfort.

In ritualization, components of behaviors that occur normally as part of everyday, instrumental activity--such as scratching the ground for food, or bending to peck at it--are, over evolutionary time, "selected" or taken out of context, "ritualized," and used to signal (i.e., communicate) an entirely different motivation--usually an attitude or intention that may then influence the behavior of another animal. In the case of the peacock, his ritualized behavior communicates his desire to mate; other animals may use ritualized behaviors aggressively, as in advertising territory or protecting resources from possible rivals. [11] Ritualized behaviors in animals, then, convey information about the motivation and intention of the signaler, without having to go to the effort of an actual mating attempt or the risk of a fight. They are a kind of coded communicative device that allows the recipient to decide his or her next move without either animal committing to an action with consequences.

The changes that occur in the course of ritualization ensure that the resulting signal is prominent, distinctive, and unambiguous so that it is not confused with its precursor behavior. Compared to the original instrumental or "ordinary" precursor behavior (e.g., scratching the ground for food, bowing as if to peck food) ritualized movements become *extraordinary* and thus attract and sustain attention. They

typically become (a) simplified or formalized (stereotyped), 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 **[End Page 341]** time and space, and (e) further emphasized or elaborated by the development of special colors or anatomical features. All of these features are exhibited by the peacock's courtship display.

I suggest that early interactions between mothers and infants may constitute ritualized behavior in humans, one that both partners are predisposed to engage in--i.e., to elicit and respond to. [12] The visual, vocal, and gestural signals spontaneously and universally used in societies everywhere by caretakers to communicate their positive affective state and affiliative intention to babies are all exaggerations and repetitions of spontaneous, everyday behaviors universally used by adults with each other to indicate affinity and readiness for contact. [13] As in other instances of animal ritualization, the visual, vocal, and kinesic signals of babytalk are simplified, stereotyped (e.g., prolonged, patterned), 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 mother-infant example is noteworthy for its close temporal synchrony that permits a more enduring coordination and conjoinment than generally appears in the mating rituals of most other animals. [14]

Developmental psychologists, neurologists, and other investigators consider early interactions to be critical to an infant's later emotional, intellectual, psychosocial, and linguistic functioning, and hence "adaptive." [15] As I have described, infants come into the world prepared to reward (with bright eyes, smiles, and delighted wiggles) those adults in their vicinity who produce the stereotyped and exaggerated sounds, facial expressions, and head movements that compose babytalk. Through these coordinated behaviors, created and responded to in mutually created temporal patterns, an emotional bond is formed and reinforced, thus aiding the infant's survival and the mother's reproductive success.

A brief aside about the evolutionary importance of mother-infant interaction is of interest and value here. In evolutionary theory, an adaptation is an anatomical structure, a physiological process, *or a behavior pattern* that contributed to ancestral individuals' ability to survive and reproduce in competition with other members of their species. [16] The adaptive value of mother-infant interaction may have arisen as follows. Our hominid ancestors came to differ from earlier primates in various ways, including bipedality, or upright walking, and greater encephalization, or expanded brain capacity. The physical **[End Page 342]** structures required to support upright walking included a narrowed pelvis; consequently, it was necessary for increasingly brainy babies to be born at a more and more immature state when their heads and bodies were small enough to pass through the birth canal. Because immature babies would require care for an extended period of time, it would behoove an infant to appear particularly

lovable and for a mother to reinforce her maternal feelings so that they would endure through the months and years of infant dependency. The interactive behavior of babytalk served both purposes, and incidentally provided the raw ingredients--the aesthetic incunabula--of adult aesthetic behavior and response. [17]

There is a further contribution from biology, specifically emotion theory, that bears on a consideration of the characteristic features of mother-infant interaction as aesthetic incunabula. As I have described, the process of ritualization serves to make specific signals *salient.* Its operations (simplification or formalization, repetition, exaggeration, and elaboration) are all ways of attracting and sustaining attention. Salience--prominence or emphasis of any sort--is potentially *emotional.* Normally our daily lives are spent in a generalized, unremarkable state of ordinary consciousness in which we do not experience "emotion" so much as what might be described as mood fluctuations, whose eddies are more or less good (positive), bad (negative), or indifferent. Emotion enters (or potentially enters) the scene when there is some discrepancy or change, provoking an interest. We appraise a salient or novel cue, anticipating what it means for our vital interests. [18]

I suggest that what artists do in all media can be summarized as deliberately performing the operations that occur instinctively during a ritualized behavior: they simplify or formalize, repeat (sometimes with variation), exaggerate, and elaborate in both space and time for the purpose of attracting attention and provoking and manipulating emotional response. "Artification," like ritualization, attracts attention and shapes and manipulates emotion. Just as infants recognize, attend to, and respond to regularization and simplification, repetition, exaggeration, and elaboration in vocal-visual-gestural modalities when interacting with adults, so do adults attend to and respond to these features as presented to them aurally, visually, and kinaesthetically in the various arts. [19]

When human groups began to create ceremonial rituals, they could draw upon an already evolved sensitivity to simplification (formalization), repetition, exaggeration, and elaboration of vocal, facial, and **[End Page 343]** kinesic behaviors--what I have called aesthetic incunabula--that had already worked to shape and manipulate emotion in mother-infant interaction. Today, we call these packages of salient stimuli song, literary language, mime, theatre, and dance. As with the peacock's vibrating tail, they can be made even more notable and emotional by the addition of visual effects that are themselves based upon regularization, repetition, exaggeration, and elaboration of colors, shapes, materials, and subject matter.

Students of literature can find countless examples of these operations upon language in literature, both oral and written. Indeed, I would suggest that the emotional effects of literature, as in any of the arts, fundamentally rest, at least in large part, upon responses to aesthetic incunabula that are discernible in earliest infancy. Although cultures certainly create their own arts, and although the verbal

arts are composed of a culturally created verbal (and today, written) language, humans are inherently (naturally) attracted to and predisposed to experience and further develop the elements and operations--the pre-verbal "aesthetic incunabula"--used in these creations and compositions.

Seattle, Washington

Notes

1. See Colwyn Trevarthen, "Fetal and Neonatal Psychology: Intrinsic Motives and Learning Behavior," in *Advances in Perinatal Medicine,* ed. Forrester Cockburn (New York: The Parthenon Publishing Group, 1997), pp. 282-91; J-P Lecanuet, W. P. Fifer, N. A. Krasnegor and W. P. Smotherman, eds., *Fetal Development: A Psychobiological Perspective* (Hillsdale, N.J.: Erlbaum, 1995).

2. M. H. Johnson, S. Dziurawiec, H. Ellis, and J. Morton, "Newborns' Preferential Tracking of Face-like Stimuli and its Subsequent Decline," *Cognition* 40 (1991): 1-19; A. J. De Casper and A. A. Carstens, "Of Human Bonding: Newborns Prefer Their Mother's Voices," *Science* 208 (1980): 1174-76.

3. See, for example, T. M. Field, R. Woodson, R. Greenberg, and D. Cohen, "Discrimination and Imitation of Facial Expressions by Neonates," *Science* 218 (1982): 179-81.

4. A. De Casper and A. Carstens, "Contingencies of Stimulation: Effects on Learning and Emotion in Neonates," *Infant Behavior and Development* 4 (1980): 19-36; B. Beebe, F. Lachman, and J. Jaffe, "Mother-Infant Interaction Structures and Presymbolic Self and Object Representations," *Psychoanalytic Dialogues* 7 (1997): 133-82.

5. Daniel Stern, "A Microanalysis of Mother-Infant Interaction," *Journal of the American Academy of Child Psychiatry* 10 (1971): 501-17.

6. See A. N. Schore, *Affect Regulation and the Origin of the Self: The Neurobiology of Emotional Development* (Hillsdale, N.J.: Erlbaum, 1994), p. 35; D. M. Tucker, "Developing Emotions and Cortical Networks," in *Minnesota Symposium on Child Psychology Vol. 24: Development, Behavior, Neuroscience,* ed. M. R. Gunnar and C. A. Nelson (Hillsdale, N.J.: Erlbaum, 1992), pp. 75-128.

7. See D. Stern, L. Hofer, W. Haft, and J. Dore, "Affect Attunement: The Sharing of Feeling States Between Mother and Infant by Means of Inter-Modal Fluency," in *Social Perception in Infants,* ed. Tiffany M. Field (Norwood, N.J.: Ablex, 1985), pp. 249-68.

8. Daniel Stern, *The First Relationship* (Cambridge: Harvard University Press, 1977); Mechthild Papousek and Hanus Papousek, "Musical Elements in the Infant's Vocalizations: Their Significance for Communication, Cognition, and Creativity," in *Advances in Infancy Research,* ed. L. P. Lipsitt (Norwood N.J.: Ablex, 1981), pp. 163-224.

9. The analysis summarized in this paragraph was made by David Miall of the University of Alberta, Edmonton, and presented as a conference paper to the Human Behavior and Evolution Society, in July 1998, at the University of California, Davis. See also David Miall and Ellen Dissanayake, "The Poetics of Babytalk" (in progress).

10. In the first English translation of the Czech literary theorist, Jan Mukarovsky, his term *aktualisace* became *foregrounding.* See J. Mukarovsky, "Standard Language and Poetic Language," in *A Prague School Reader on Esthetics, Literary Structure, and Style,* ed. P. L. Garvin (Washington, D.C.: Georgetown University Press, 1964 [1932]), pp. 17-30, and David S. Miall and Don Kuiken, "Foregrounding, Defamiliarization, and Affect: Response to Literary Stories," *Poetics* 22 (1994): 389-407.

11. The peacock example is taken from Irenäus Eibl-Eibesfeldt, *Love and Hate* (New York: Holt, Rinehart and Winston, 1972). Other "ordinary" behaviors from which ritualized behaviors are drawn include preening, nest-building, and preparing to fly. As in the case of the peacock (whose ground-pecking resembles a mother hen with her chicks), behaviors derived from feeding young (e.g., touching beaks, offering a token with the beak, coughing as if regurgitating) are ritualized in a number of species and used for courtship. See Niko Tinbergen, "Derived Activities: Their Causation, Biological Significance, Origin, and Emancipation During Evolution," *Quarterly Review of Biology* 27 (1952): 1-32, and Julian Huxley, "The Courtship Habits of the Great Crested Grebe (*Podiceps cristatus*) Together With a Discussion of the Evolution of Courtship in Birds," *Journal of the Linnean Society of London Zoology* 53 (1914): 253-92.

12. As a ritualized behavior, mother-infant interaction in humans is more labile (open to individual variation) than most ritualized behaviors in other animals. I have discussed this in more detail in two earlier publications. See Ellen Dissanayake, "Antecedents of the Temporal Arts in Early Mother-Infant Interaction," in *The Origins of Music,* ed. Nils Wallin, Björn Merker, and Steven Brown (Cambridge Mass.: M.I.T. Press, 1999), pp. 389-410, and E. Dissanayake, *Art and Intimacy: How the Arts Began* (Seattle: University of Washington Press, 2000).

13. See Tyge Schelde and Mogens Hertz, "Ethology and Psychotherapy," *Ethology and Sociobiology* 15 (1994): 383-92, for visual signals of friendly or affinitive intent in human adults.

14. Some courtship rituals in animals are dyadic, with both partners participating

in the formalized movements. See Tinbergen (n.11).

15. For a list, with specific references, of these benefits, see E. Dissanayake, "Becoming *Homo Aestheticus*: Sources of Aesthetic Imagination in Mother-Infant Interactions," in *Imagination and the Adapted Mind,* ed. Porter Abbott, *SubStance* 30 (1994/95): 87.

16. See Charles Crawford, "The Theory of Evolution in the Study of Human Behavior: An Introduction and Overview," in *Handbook of Evolutionary Psychology: Ideas, Issues, and Applications,* ed. Charles Crawford and Dennis L. Krebs (Mahwah, N.J.: Erlbaum, 1998), pp. 3-41.

17. See Ellen Dissanayake, *Art and Intimacy: How the Arts Began* (Seattle: University of Washington Press, 2000), pp. 13-16.

18. See David Watson and Lee Anna Clark, "The Vicissitudes of Mood: A schematic model," and Phoebe Ellsworth, "Some Reasons to Expect Universal Antecedents of Emotion," in *The Nature of Emotion: Fundamental Questions,* ed. Paul Ekman and R. J. Davidson (New York: Oxford University Press, 1994).

19. I have published this suggestion with respect to music, in particular, in "Antecedents of the Temporal Arts in Early Mother-Infant Interaction" and with regard to the arts in general in *Art and Intimacy* (n. 12).

Muse | Search | Journals | This Journal | Contents | Top