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Mind, Dance, and Pedagogy

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While much has been written about dance, its role in education has been elusive. One thing is clear, though. What distinguishes dance from other forms of movement, action, and activity is the context in which dance or "aesthetic movement" is performed and appreciated by others. This includes both the way dance is thought about and evaluated by members of the dance community as well as the process by which dance "technique" is exploited, developed, and taught by dancers and choreographers.[1] Thus, mind, dance technique, and pedagogy form the core of the movement arts. Indeed, therein lies both its aesthetic appeal as well as its role in education both inside and outside the arts.

Traditionally, while human movement was accorded a central position in early learning, it has not been granted a major role in mind and thought until fairly recently.[2] For instance, recent theorists have suggested that dance originates in a discrete bodily kinesthetic "intelligence";[3] that skilled movement is a form of thinking;[4] or that movement is predominant in all forms of human intellective activity.[5]

Dance has been defined as culturally patterned sequences of deliberative and rhythmical bodily gestural movements that possess both intrinsic and aesthetic value.[6] Indeed, such "mimetic skill" originates in the ability to reproduce facial expressions, vocal prosody, manual signs and gestures, postural attitudes and whole-body movements as well as accent, meter, tempo, and duration through rhythmic body movements that are representational.[7] Aesthetically, dance conveys meaning by way of six aesthetic modalities: imitation, visual resemblance, style, metonymic tropes, metaphoric tropes, and in terms of statuses and roles. Imitation or "replication" is central to aesthetic movement. For instance, a young child imitates an airplane or a bird in flight by flapping her arms. On the other hand, visual resemblance is an aesthetic modality to the extent that it captures the outward

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form of the movement: an older child learns to move and behave in a feline manner. Style in dance is a result of the conventionalization of gestures and whole-body movements: the illusion of overcoming gravity through ballet *pointe* technique opposed to the use of the heaviness of the lower body to convey pathos in modern dance. The two tropes, metaphor and metonym, convey aesthetic meaning by substituting one movement for another (for example, scratching the head to convey thinking) or using a part of a movement to express a larger whole (for example, a war dance to convey the notion of impending battle).[8] Lastly, statuses (for example "king") and roles (for example, "romantic lover") are conveyed through, respectively, a courtly or coquettish dance. Conversely, while dance notation can capture the descriptive properties of dance, it provides no decisive procedures for reconstituting what the dance itself signifies.[9] There has been speculation for some time that aesthetic production and judgment have a biological basis that underwrites development in the arts. For instance, E.O. Wilson suggests some sort of underlying epigenetic rule that specifies the general types of shapes and gestic forms that children and adults characteristically respond to.[10] So, subjects show a preference for a certain amount of complexity (in other words, regularity, symmetry, and continuity) in abstract figures and designs where the redundancy of elements is in the region of 60%.[11] More developed levels of aesthetic sensitivity result in a preference for more complex designs (peaking at around 60% redundancy) and aesthetic judgments at these higher levels of aesthetic sensitivity differ from lower levels of aesthetic sensitivity with regard to notions of beauty or unattractiveness. Since these aesthetic judgments link physiological arousal with changes in brain wave patterns (in other words, desynchronization of alpha waves), and it is known that infants gaze longer at drawings with a certain amount of complexity (for example, gazing longer at schematic outline drawings than real objects[12]), Wilson believes that these judgment outcomes suggest an underlying "aesthetic instinct." Indeed, within the realm of movement, Manfred Clynes has proposed that expressive movements are modulated by underlying "sentic states" or "sentic cycles" that determine the way gestic form is expressed in individuals such as its length or duration, phases of acceleration and deceleration, as well as the actual form of movement over time.[13] If this is so, then there may be both constraints and regularities in the development of aesthetic abilities in the movement arts. These constraints and regularities may inform our perception of the arts as well as children's development.[14]

Indeed, since the Greeks, aesthetic judgments have been linked to notions of beauty and form.[15] David Hume believed that education of the senses (practice, delicacy, comparison, and good sense) was the major requirement for the development of taste in order to judge beauty and its moral implications.[16] Immanuel Kant deemed the aesthetic sense an intuitive and pleasurable experience that guided human moral conduct.[17] He linked his

central aesthetic concepts — the sublime and the beautiful — to the classical temperaments: melancholy, sanguine, choleric, and phlegmatic. In his later work, however, he indicated that taste — a faculty of aesthetic judgment — was a logical judgment (uniting understanding, judgment, and reason) that was founded on one that is aesthetic (undergirded by feelings of pleasure and desire).[18] On the other hand, Leo Tolstoy suggested that a work of art was most effective when it expressed the authentic feelings of the artist to the viewer independent of class-imposed notions of beauty.[19]

In a classic discussion of the aesthetics of dance, Suzanne Langer in *Feeling and Form* claimed that dance was "virtual gesture." Rather than expressing actual emotions, dance reveals aspects of reality (for example, relations among individuals) through gestic form. Dance accomplishes this in two ways: first, through virtual self-expression the dancer's concrete gestures capture the "forms of feeling" (for example, hand outstretched to convey romantic desire), and second, through logical expression the dancer symbolizes concepts through the body (for example, hands pressed together to one side of the head to suggest sleep). Both self-expression and logical expression are played out through the interaction of bodily gestural forms, the kinesthetic and projected space around the dancers' bodies, lighting, scenery, props, music, audience reactions, and so on. For that reason, dance is best understood as a field of virtual objects and forces: dancers, dance elements, space, time, and gravity. This interplay of forces in relation to self- and logical expression, Langer refers to as artistic consciousness. Indeed, this "terpsichorean art," according to Langer, has evolved from simple postural-gestural forms such as circling, whirling, and gliding, and creates the illusion of virtual forces for the observer through both what is seen (vision) and what is physically felt (kinesthesia).

Nevertheless, dance is governed by physical laws of motion.[20] These include relationships among the physical laws of velocity, acceleration, position, and time (in other words, kinematics) and the relation between physical laws of motion and the forces that operate on motion (in other words, dynamics). These physical laws create the illusion of virtual forces. For instance, in the *grand jete* "floating illusion" of ballet, the dancer appears to float briefly horizontally. However, the illusion is created because the observer tends to follow the head and torso of the dancer, which moves in a horizontal trajectory, while the actual center of gravity of the dancer follows a parabolic curve. Similar illusions (for example, *attitude derriere, pirouette en dehors*) are created by the kinematics and dynamics of Newton's laws of linear mechanics as well as the analogous laws of rotational motion.

Rudolf Laban maintained that aesthetic education in the movement arts strengthened the spontaneous faculties of expression and fostered artistic expression in the young.[21] It accomplishes this by fostering awareness of the body with regard to space and of rhythm, maintaining flexibility of the spine and promoting muscular development, developing the ability to

communicate more effectively with peers, abetting personality development, promoting aesthetic taste and discrimination, as well as a encouraging a creative attitude. This is so because rhythmic movement is the basis of art, play, and work, according to Laban and because movement injects itself into all intellective activities: the balanced flow and harmony of ordered movement. Indeed, "self-generated movement is the foundation of thought and willed action, the underlying mechanism by which the physical and psychological coordinates of the self come into being."[23]

Recent studies of the development of dance movement are beginning to clarify the ways children express concepts and ideas through aesthetic movement. At a general level, the research indicates that three- and four-year-olds lack the ability to express tension or weight in their movement. Nonetheless, in terms of motor organization, they have developed front-back but poor lateral movement; have acquired quasi-skipping, marching, and jumping abilities; demonstrate both asymmetric use of the body and body parts; but, lack more advanced balancing abilities. In terms of representational capacities (metaphor and metonym), they can treat one movement as another, represent a movement for an absent concept, and distort a property of a movement so as to treat it as another movement property. However, by five or six years of age, children have acquired lateral movement, complex movements such as skipping, can coordinate movement in and around objects, have acquired the first and second positions in modern ballet technique, and can use their upper body to propel themselves forward in a horizontal plane. In addition, they can create geometric shapes with body parts (visual resemblance), demonstrate metrical properties of rhythm in their movement, show symmetric use of the body and body parts, and have acquired more advanced balancing abilities. At all ages, children displayed metaphoric gestures (the use of a body part to stand in place of a concept or idea), simple diectic (such as pointing) and spatial gestures, kinetographs (movements which depict a bodily action), as well as simple regulators (gestures that regulate action between group participants).[24] These studies suggest ways that these evolving abilities can be harnessed to improve and build on children's learning both in and outside the movement arts.

NOTES

1. Graham McFee, *Understanding Dance* (London: Routledge, 1992).
2. See Jean Piaget, *The Origins of Intelligence in Children*, 2d ed., trans. Margaret Cook (New York: International Universities Press, 1952). See also Frederic Bartlett, *Thinking: An Experimental and Social Study* (New York: Basic Books, 1958); Rudolf Laban, *Laban's Principles of Dance and Movement Notation*, 2d ed. (London: MacDonald and Evans, 1956); and Jay A. Seitz, "The Bodily Basis of Thought," *New Ideas in Psychology: An International Journal of Innovative Theory in*

Psychology 18, no. 1 (1999): 23-40. Available online at: http://www.york.cuny.edu/~seitz/body.html

3. Howard Gardner, *Frames of Mind: The Theory of Multiple Intelligences*, rev. ed. (New York: Basic Books, 1993).
4. Bartlett, *Thinking*; K.W. Fischer and T.R. Bidell, "Dynamic Development of Psychological Structures in Action and Thought," in *Handbook of Child Psychology: Vol. 1: Theoretical Models of Human Development*, ed. William Damon (New York: Wiley, 1998), 467-561; Stephen J. Gould, "The Brain of Brawn," *The New York Times*, 25 June 2000, A25; Jay A. Seitz, "Thinking Kinesically: Theory and Practice"; paper presented at the 24th Annual Symposium of the Jean Piaget Society, Chicago, June 1994. Available online at: http://www.york.cuny.edu/~seitz/body.html; Seitz, "The Bodily Basis of Thought"; and David Sudnow, *Ways of the Hand: The Organization of Improvised Conduct* (New York: Harper and Row, 1978).
5. For example, Laban, *Laban's Principles;* Rudolf Laban, *Modern Educational Dance*, 3d ed. (Boston: Plays, Inc, 1975); Rudolf Laban and F.C. Lawrence, *Effort: Economy of Human Movement*, 2d ed. (Boston: Plays, Inc, 1974); Maria Montessori, *The Absorbent Mind* (1967; reprint, New York: 1999); Jay Seitz, "The Embodied Self," paper presented at the 30th Annual Symposium of the Jean Piaget Society, Montreal, June 2000, available online at: http://www.york.cuny.edu/~seitz/bio.html; and Jay A. Seitz, "Embodied Cognition," paper presented at the 12th Annual Convention of the American Psychological Society, Miami, June 2000.
6. J.L. Hanna, *To Dance is Human: A Theory of Nonverbal Communication* (Austin: University of Texas Press, 1979).
7. Merlin Donald, *Origins of the Modern Mind: Three Stages in the Evolution of Culture and Cognition* (Cambridge: Harvard University Press, 1991).
8. For a review see Jay Seitz, "Nonverbal Metaphor: A Review of Theories and Evidence," *Genetic, Social, and General Psychology Monographs* 124, no. 1 (1998): 121-43.
9. Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols*, 2d ed. (Indianapolis: Hackett, 1976).
10. E.O. Wilson, *Consilience: The Unity of Knowledge* (New York: Alfred Knopf, 1998).
11. Gerda Smets, *Aesthetic Judgment and Arousal: An Experimental Contribution to Psycho-aesthetics* (Leuven: University Press, 1973).
12. Ellen Winner, *Invented Worlds: The Psychology of the Arts* (Cambridge: Harvard University Press, 1982).
13. Manfred Clynes, *Sentics: The Touch of Emotions*, rev. ed. (Dorset, England: Prism Press, 1989).
14. See Howard Gardner, *Art Education and Human Development: Occasional Paper 3* (Los Angeles: Getty Center for Education in the Arts, 1990) for a concise review of development in the visual arts.
15. Plato, *Two Comic Dialogues: Ion and Hippias Major*, trans. Paul Woodruff (Indianapolis: Hackett, 1983).
16. David Hume, *Of the Standard of Taste and Other Essays* (1757; reprint, Indianapolis: Bobbs-Merrill, 1965).
17. Immanuel Kant, *Observations on the Feeling of the Beautiful and Sublime*, trans. J.T. Goldthwait (1764; reprint, Berkeley: University of California Press, 1960).
18. Immanuel Kant, *The Critique of Judgment*, trans. J.C. Meredith (1790; reprint, Oxford: Clarendon Press, 1952).
19. Leo Tolstoy, *What is Art?* trans. R. Pevear and L. Volokhonsky (1898; reprint, London: Penguin Books, 1995).
20. Kenneth Laws, *The Physics of Dance* (Available from the Department of Physics, Dickinson College, 1984).
21. Laban, *Laban's Principles*
22. Laban and Lawrence, *Effort: Economy of Human Movement*.
23. Wilson, *Consilience*, 291.

24. Susan Carlson and Jay A. Seitz, "The Development of Kinesthetic Movement in Children," paper presented at the New York Academy of Sciences, New York, August 1998; Otoniel Lopez, *The Relationship Between Nonverbal Behavior and Thought*, Senior Honors Thesis, NIH/Minority Access to Research Careers (MARC) Program, New York, York College/City University of New York, Department of Political Science and Psychology, June 1999. Available online at: http://www.york.cuny.edu/~seitz/bio.html; Otoniel Lopez and Jay A. Seitz, "The Bodily Basis of Thought: Observational Data," paper presented at the annual meeting of the National Minority Research Symposium, New York, November 1998; Chira Mirani and Jay A. Seitz, "Development of Body-gestural Skills in Children," paper presented at the New York Academy of Sciences, New York, August 1998; Jay A. Seitz, "The Development of Bodily Kinesthetic Intelligence in Children: Implications for Education and Artistry," *Holistic Education Review* 5, no 2 (1992); 35-39. Available online at: http://www.york.cuny.edu/~seitz/body.html; Jay A. Seitz, "I Move...Therefore I Am," *Psychology Today* 26 (March/April 1993): 50-55. Available online at: http://www.tcams.org/seitz.htm; Jay A. Seitz, "The Development of Aesthetic Movement: Linkages to Preschool Education," *Journal of Early Education and Family Issues* 5, no. 2 (1996). Available online at: http://www.york.cuny.edu/~seitz/body.html; Fazeeda Smartt and Jay A. Seitz, "Aesthetic Movement and the Bodily Basis of Thought," poster presented at the Annual Meeting of the National Minority Research Symposium, Phoenix, November 1999; and Fazeeda Smartt and Jay A. Seitz, *The Embodied Mind in Dance*, paper presented at the 40th Annual Meeting of the Northeastern Anthropological Association, New York, April 2000.