
Friedrich Froebel's Gifts

Connecting the Spiritual and Aesthetic to the Real World of Play and Learning

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Friedrich Froebel, the German educator and founder of the Kindergarten Movement, developed a series of play materials including geometric building blocks and pattern activity blocks designed to teach children about forms and relationships found in nature. Froebel's notions about using activity and play in preschool education complement many principles of early childhood education used in contemporary schools. But few modern teachers and educators study the nineteenth-century education pioneer or his ideas. This article explores how his system of learning through directed play focused on his play materials, called gifts, is still important and relevant to children and learning today.

FRIEDRICH FROEBEL, THE German educator and founder of the Kindergarten Movement, is not widely known in modern education or play theory. While respected as a pioneer in early childhood education, Froebel's ideas inspire little discussion of the potential relevance of his work to contemporary education or of the pertinence of his theories for today's children. It is the thesis of this article that Froebel's ideas—particularly those involving toys and play—should be better understood by contemporary educators and that his approach to educating young children can provide a starting point for reforming many elements of how we currently teach children and for improving the opportunities they have for play.

If Froebel is not widely known by most contemporary educators, he is even less familiar to the general public. This is true even though he, as much as any single figure, founded the modern Kindergarten Movement. Born to a Lutheran minister in 1782, Froebel was profoundly shaped by his religious beliefs and his experiences as a child. He did not get along with the stepmother who raised him, and, when he was fifteen, his parents apprenticed him to a forester. For two years, the boy studied plants and trees. From this experience—and from

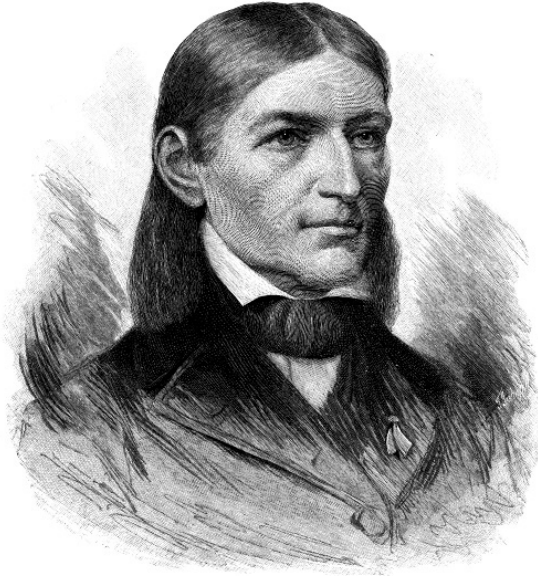


Illustration 1. A nineteenth-century engraving of Friedrich Froebel by T. Johnson.

the time he spent working as a mineralogist for the Royal Museum in Berlin—Froebel developed much of his understanding of nature. For Froebel, nature literally revealed the truths of religion and the meaning of God. As he explained, “Nature presents the truths of religion in visible form, and confirms what we learn by mediating upon God. What we thus conceive we find existing in the material world. So it is that nature satisfies the demands of religion. For like all that exists, nature reveals God.”¹

Froebel’s emphasis on spirituality—and the religiously dogmatic interpretation of his ideas in late nineteenth-century America by the likes of Susan E. Blow—perhaps help to explain why his ideas are not more widely appreciated. In any case, such dogmatism was successfully challenged by a progressive movement in kindergarten education led by Patty Smith Hill, Anna Bryan, Alice Putnam, and others. Whereas Blow emphasized a formulaic and orthodox approach to Froebel’s work, the progressives saw his ideas as just a starting point to which they added a new model of child study and development—one which also took into account children’s learning in urban settings.²

In truth, Froebel’s ideas were part of the larger Romantic philosophical movement in Germany. While attending the University of Jena, Froebel was introduced to the ideas of Immanuel Kant, Johann Wolfgang von Goethe, Friedrich Schiller,

and others. Froebel was particularly influenced by the work of Johann Gottlieb Fichte who, in his 1808 *Addresses to the German Nation*, claimed the ideas of the Swiss educator Johann Heinrich Pestalozzi provided a means of renewing German culture through education.³ According to Barbara Beatty, Froebel was also “profoundly moved” by Friedrich von Schelling’s 1802 *Bruno, or The Natural and the Divine Principle of Things*, from which he obtained much of his understanding of nature and the interconnectedness of all things.⁴

Froebel’s invention of kindergarten was essentially a synthesis of the ideas of Fichte and Pestalozzi. He believed that the education of a child should start shortly after birth. His ideas emphasized the spiritual dimensions of a child, and he developed a theory of play based on what he believed was a child’s natural need for activity.⁵

His belief that a child needed to be active and engaged in meaningful play led Froebel to make what many consider to be his most important contribution to education: Froebel’s *gifts* and *occupations*. The gifts and occupations were a series of twenty devices and activities, essentially a hands-on curricular system, intended to introduce children to the physical forms and relationships found in nature. These tangible objects and activities assumed that there was a mathematical and natural logic underlying all things in nature—one which Froebel ascribed to God’s handiwork.⁶ Often the first ten of Froebel’s educational activities were referred to as the gifts, and the second set of activities were the occupations. Froebel’s followers evidently adhered to this division much more closely than Froebel himself. In this article, I follow Norman Brosterman’s model in his book *Inventing Kindergarten* and refer to all of Froebel’s educational activities simply as the gifts.⁷

The gifts literally functioned as tools with which to awaken and develop a child’s recognition of the common, God-given elements found in nature. Froebel’s philosophy embraced a Christian pantheism, one that assumed that all things in nature (animal, vegetable, and mineral) are connected. Thus Froebel was concerned with showing the interrelationships between living and inanimate things. His gifts helped him do so by instilling in children an appreciation of natural forms and harmonies. Such an accomplishment remains clearly consistent with his more general understanding of the purpose of education, the nature of which he believed to be directed by “an eternal law and unity.”

For the modern educator and reader, Froebel’s ideas are highly abstract, metaphysical, deeply religious, and spiritual. They do not necessarily resonate with more modern ideas of efficiency in education, of teaching to the standards,

and of educational accountability. This is a shame. Froebel should interest modern educators if for no other reason than to show us how to take a spiritually based model of education and translate its abstractions into tangible and engaging educational activities and devices for children. The gifts, when used selectively and in an updated manner, also stand by themselves as valuable manipulatives for early childhood education and play.

In fact, we still use many of Froebel's ideas and materials without acknowledging their source. We consider block play, for example, as a basic learning activity in early childhood education. It was Froebel who introduced the use of blocks on a wide scale into early childhood education (third, fourth, fifth, and sixth gifts). Likewise, the use of parquetry and pattern recognition (seventh and thirteenth gifts) is one of his important contributions, as is the use of structural-design toys similar to Tinkertoys (nineteenth gift).

Froebel did not particularly emphasize the differences between the gifts. His system, however, deliberately moved from the simple to the complex: "from solid, to plane, to line, to point, and then reversed to arrive back in three dimensions with activities in 'peas-work' and modeling clay."⁸ Writing in 1871, Bertha Maria von Marenholtz-Bülow, one of Froebel's most influential followers, argued that a child learned about things, from the simple to the complex, by using the Froebelian materials. In doing so, a child "recognizes the agreement between the intellectually organic linking of his own being with that in the material world."⁹

Froebel's gifts were not only clever inventions, but wonderfully appropriate in terms of the cognitive and developmental needs of children. The first gift, for example, was a collection of six soft woolen balls, each one on a string. The three main balls are red, blue, and yellow (the primary colors). The remaining three balls were violet, orange, and green (the secondary colors), representing the combination or synthesis of the colors for each of the three main balls (red + blue = violet; red + yellow = orange; and blue + yellow = green). Froebel used the ball—a perfectly round shape or sphere—because it was an idealized form (equally proportioned on all sides, without end or beginning, in terms of its surface, and so on).

From a practical point of view, the first gift was used to introduce children to basic concepts in the world around them. By grasping, swinging, rolling, dropping, hiding the ball, and so on, children learned about concepts such as here, there, over, right, left, larger, and smaller.

Similar concepts have been integrated into contemporary instruction for children today. Concepts such as top, through, below, away from, next to, and

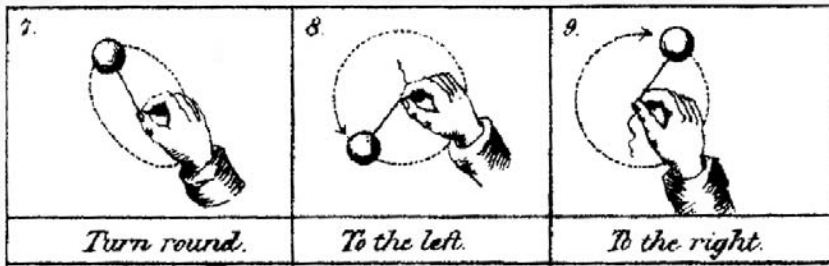


Illustration 2. Examples of suggested exercises using Froebel's first gift, illustrated in Johann and Bertha Ronge, *A Practical Guide to the English Kindergarten* (1855).

inside, for example, are the first five (of fifty) concepts listed by Ann Boehm as part of her Boehm Test of Basic Concepts (BTBC), one of the most widely used modern tests designed "to measure children's mastery of concepts considered necessary for achievement in the first two years of school."¹⁰ Essential for children's reading readiness, the mastery of these concepts forms a fundamental part of most contemporary children's early education.¹¹

In his second gift, Froebel created a simple yet metaphysical educational toy. This device of three parts consisted of a wooden sphere approximately three

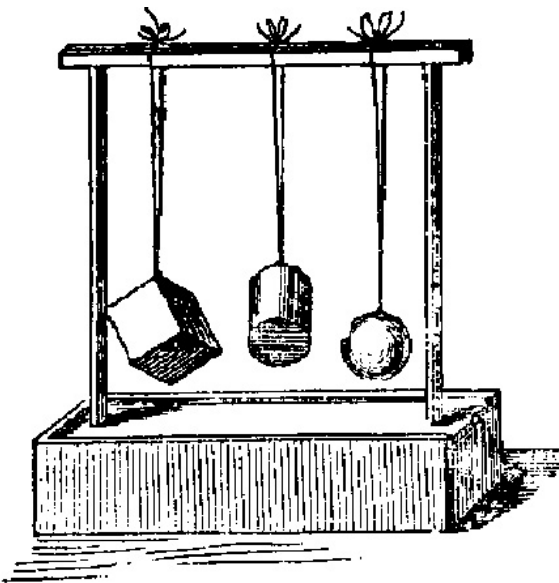


Illustration 3. The second gift illustrated in Mrs. John (Maria) Krause-Boelte, "Characteristics of Froebel's Method," in *Addresses and Proceedings of the National Educational Association* (1876). 217.

inches in diameter, a wooden cube, and a wooden cylinder. It demonstrated not only the principle of unity found in all living and inanimate things, but also the dialectical principle of the German Romantic-era philosopher, Georg Wilhelm Friedrich Hegel.

According to Hegel's theory, thesis and antithesis yield synthesis. Thus, seemingly opposite and opposed things can be synthesized or combined together through the dialectic process to create a new unity. In the case of the sphere, all sides of the object are round. In the case of the cube, all sides are rectilinear or square. Combining these two seemingly opposite objects creates a synthesis in the form of the cylinder, which includes both flat and rounded sides.

When asked if his system was based on Hegel's dialectical theory, Froebel responded that he had not studied Hegel's work, but that the whole meaning of his own system rested upon this law alone. It is almost certain that he picked up on Hegel's ideas, which were widely circulated in German universities during Froebel's era, without his realizing their source. There is, however, the possibility that Froebel invented his theory independently of Hegel's ideas.¹²

Froebel created extremely clever pedagogical exercises using these devices, which further demonstrated the synthetic merging of opposites. In each of the solid forms of the second gift (sphere, cube, cylinder), he drilled holes through the center, from plane to plane. By pushing a long dowel through each form, the parts of the second gift became tops. By spinning the cylinder rapidly, the image of a sphere would appear. Through this brilliant manipulation of the objects in the second gift, Froebel was able to demonstrate the essential unity and connectedness of seemingly opposite forms.

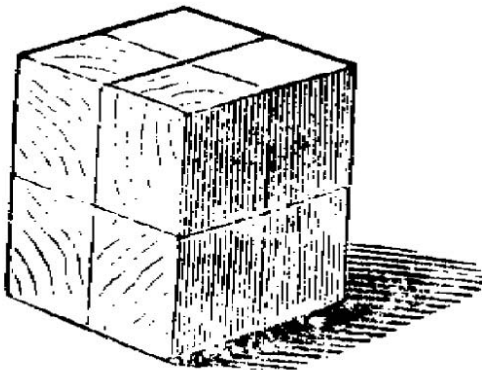


Illustration 4. The third gift illustrated in Mrs. John (Maria) Krause-Boelte, "Characteristics of Froebel's Method," in *Addresses and Proceedings of the National Educational Association* (1876).

Froebel's next four gifts were sets of blocks, something we take for granted today as part of early childhood education but novel in Froebel's time. In the third gift, the block set consisted of a two-inch cube divided into eight smaller and equal-sized cubes. The fourth gift also consisted of a divided cube—made up of oblong blocks. Where the third gift included blocks equal in height, length, and breadth, the oblong blocks of the fourth gift are twice as long as they are broad, and twice as broad as they are high. The fifth and sixth gifts represent expansions of the third and fourth.

Froebel's blocks were radical innovations in the history of play. He asked children not to imitate the world around them, but to use the blocks as elements in creating their own structures. By manipulating the blocks on the gridded tables that were a standard feature of nineteenth-century kindergarten classrooms, children created simple pieces of furniture, complex patterned designs, or complex architectural structures. In commenting on the third and fourth gifts, Maria Kraus-Boelte—an early American-based advocate of kindergarten education—noted that “children learn particularly in these gifts to develop in themselves the great law of *order*, which is the condition of everything that lives and moves.”¹³

The first six of Froebel's gifts emphasized three-dimensional objects. His seventh gift, Parquetry, represented a transition to the abstract. Parquetry consisted of brightly colored wooden or cardboard pieces in five different shapes (square, right isosceles triangle, equilateral triangle, and others). Each of the parquetry units was based on the one-inch module of the block system and the gridded table surface. From Parquetry, as well as Cutting (thirteenth gift), Weaving (fourteenth gift), and Folding (eighteenth gift), children learned “symmetry of form and neatness, and the endless changes delight the fancy and awaken the intelligence and higher understanding.”¹⁴

The remaining Froebelian gifts dealt with different aspects of line, pattern, color, and structure: the eighth gift consisted of sticks for laying down patterns; the ninth gift encouraged making patterns with circular pieces; the tenth gift involved drawing; the eleventh gift inspired drawing or printing on preprinted grids; and the twelfth gift required children to sew using gridded patterns or images of objects on cards. Gifts fifteen, sixteen, and seventeen were essentially variations on earlier activities.

Among the most important of the later gifts was Peas Work (nineteenth gift), which was a primitive Tinkertoy system using peas or cork balls and small lengths of wood. Its purpose was to take point and line and project them into



Illustration 5. The eighth gift illustrated in Mrs. John (Maria) Krause-Boelte, "Characteristics of Froebel's Method," in *Addresses and Proceedings of the National Educational Association* (1876).

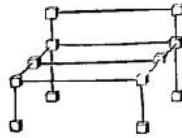


Illustration 6. The nineteenth gift illustrated in Mrs. John (Maria) Krause-Boelte, "Characteristics of Froebel's Method," in *Addresses and Proceedings of the National Educational Association* (1876).

volumetric forms that could also provide skeletal supports for structures and objects children created.

Peas Work, which seems obscure on the surface, was a brilliant way to introduce children to basic engineering principles. Many years after he attended kindergarten in Milton, Massachusetts, the American architect Buckminster Fuller recalled how he discovered the triangle (the fundamental unit of Fuller's

famous geodesic-dome system) as a structural and architectural concept by working with the nineteenth gift.

One of my first days at kindergarten the teacher brought us some toothpicks and semi-dried peas, and told us to make structures. With my bad sight, I was used to seeing only bulks. I had no feeling about structural lines. The other children, who had good eyes, were familiar with houses and barns. Because I couldn't see, I naturally had recourse to my other senses. When the teacher told us to make structures, I tried to make something that would work. Pushing and then pulling, I found that the triangle held its shape when nothing else did. The other children made rectangular structures that seemed to stand up because the peas held them in shape. The teacher called all the other teachers in primary school to take a look at this triangular structure. I remember being surprised that they were surprised.¹⁵

The twentieth gift, the final gift, involved children doing free-form modeling using clay or bee's wax. This final gift allowed children to work with a totally flexible form and impose on it whatever shape they wished.

On the surface, it is easy to dismiss Froebel's work as simply "child's play." In fact, his educational devices and the philosophical system underlying them were profoundly spiritual and aesthetic. Froebel's system clearly relates to how children develop according to the theories of Jean Piaget and his followers.¹⁶ Froebel's gifts progress from the simple to the complex, which makes their use compatible with Piaget's ideas. The gifts' hands-on elements reinforce the idea of concrete learning—an essential part of Piaget's work and almost certainly his most significant contribution to educational practice.

As noted earlier, it is Froebel's religious beliefs and spirituality that probably cause the most difficulty for contemporary educators. Spirituality is a subject simply not widely discussed in education, avoided because of its religious overtones. While Froebel was trying to connect children to larger religious beliefs, he was also interested in helping them understand their own relationship and the relationship of humankind to nature. Such thinking nowadays resonates with our concerns for the environment, and we can read Froebel's attempts to connect children to nature and the world ecologically. So, although helping children understand the meaning of God was essential to Froebel, it is not essential for those who wish to use the gifts in contemporary education.

I suggest that the gifts can be easily removed from Froebel's religious context and used to ground children in the real world through personal experience and hands-on learning. In this context, Froebel's ideas complement the work of the educationally progressive John Dewey, who included kindergarten instruction as an important part of his educational system. While Dewey sided with the progressive kindergarten leaders such as Patty Smith Hill and Anna Bryan, his strong convictions about learning through doing and hands-on education do not contradict the basic principles learned through the gifts. I cannot help but think that Dewey, who early in his career embraced Hegelianism, would have had little trouble with the dialectical quality of the gifts. Whatever the case, clearly Dewey's desire to ground children in meaningful hands-on learning was not inconsistent with a broad and creative use of Froebelian materials.

The gifts also provided children a means of engaging in the aesthetic dimensions of being. This is something that Froebel would have assumed to come from children gaining a better understanding of nature and the godly spirit within all things. In our era, we more often view this spiritual dimension aesthetically rather than religiously.

And there is clear evidence that the Froebelian gifts did indeed influence—in some cases, profoundly—the aesthetic development of the children who used them. In his book *Inventing Kindergarten*, Norman Brosterman argued that several major artists and designers such as Buckminster Fuller, Georges Braque, Piet Mondrian, Paul Klee, Wassily Kandinsky, Frank Lloyd Wright, and Le Corbusier were greatly influenced by their experiences with Froebel's gifts in kindergarten.¹⁷

In the case of Paul Klee and Piet Mondrian, for example, it seems likely that their paintings were influenced by design principles that were almost certainly introduced to them in their early educational experiences. This is clearly so in the well-documented and widely cited experience of Frank Lloyd Wright with Froebel's kindergarten materials. Wright was introduced to the Froebelian materials through his mother who had learned about them while visiting the 1876 Philadelphia Centennial Exhibition. In a remarkable section of his autobiography, Frank Lloyd Wright recalled, "At the Centennial in Philadelphia, after a sightseeing day, mother made a discovery. . . . The kindergarten! She had seen the 'Gifts' in the Exposition Building. The strips of colored paper, glazed and 'matt,' remarkably soft brilliant colors. Now came the geometric by-play of those charming checkered combinations! The structural figures to be made with peas and globes. The smooth shapely maple



Illustration 7. Children receiving instruction in the Kindergarten Cottage at the Philadelphia Centennial Exhibition, 1876 illustrated in *Frank Leslie's Historical Register of the United States Centennial Exposition, 1876* (1877).

blocks with which to build, the sense of which never afterward leaves the fingers: *form becoming feeling*.”¹⁸

After her return from Philadelphia, Wright's mother purchased a set of the Froebelian gifts to use with her two young sons. The set had a particularly profound effect on Frank. Recounting his experience with the kindergarten materials many years later, Wright explained, “A small interior world of color and form now came within grasp of small fingers. Color and pattern, in the flat, in the round. Shapes that lay hidden behind the appearances all about. . . . Here was something for invention to seize, and use to create. These ‘Gifts’ came into the gray house in drab old Weymouth and made something live that had never lived before.”¹⁹

According to Wright, it was by playing with the Froebelian gifts—in particular the paper-cutting exercises—that he became aware of the use of color. Through Froebel's peas work or cork work, Wright believed that he was introduced to the skeletal structure of objects. According to him, the virtue of the Froebelian toys was: “in the awakening of the child-mind to rhythmic structure in Nature—giving the child a sense of innate cause-and-effect otherwise far beyond child-comprehension. I soon became susceptible to constructive pattern *evolving in everything I saw*. I learned to ‘see’ this way and when I did, I did not care to draw casual incidentals of Nature. I wanted to design.”²⁰ The probable influence of Froebel's gifts on Wright's work as an architect has been thoughtfully analyzed by Norman Brosterman and others, including the author of this article.²¹ There is an undeniable link between Wright's adult work and Froebel's gifts. One need only look at Wright's stained-glass windows to realize the extent to which Froebel's parquetry and paper-folding exercises



Illustration 8. Window in Frank Lloyd Wright's Robie House, Chicago, Illinois. Historic American Buildings Survey, Library of Congress, Cervin Robinson, Photographer, 1963.

influenced the architect's designs, or how the proportions in Froebel's different block systems are replicated in Wright's buildings.²²

Is all of this merely an interesting digression into historical archeology? Why should contemporary educators and play theorists be concerned with Froebel's work? Why is it important in terms of understanding the physical and psychological development of children? What do Froebel's ideas suggest to us in terms of rediscovering spirituality in play and learning?

As I have already suggested, Froebel's work points us to the idea that there is the potential in play and play devices like the gifts to direct children toward the unity found in nature—toward what Froebel calls the “pattern or patterns that connect.” In Froebel's spinning of objects like the cube and cylinder in the second gift, for example, a child receives a concrete demonstration of the connectedness of seemingly dissimilar objects and of the more general principles of dialectic thinking—what Froebel believes to be the unmistakable unity found in things.

I mentioned also that Froebel's thinking can be viewed ecologically. Froebel's second gift, for example, might well be compared to recent work in the field of social and cultural ecology. Gregory Bateson, in his classic work *Mind and Nature*, argued that the schools provide almost no training concerning the pattern that connects disparate things in nature. Likewise, contemporary models and theories of play do little to show children the pattern. According to Bateson, the “pattern which connects” includes the notion of what things mean to one another even when they are seemingly as different and unrelated as the crab

and lobster, the rose and primrose. Bateson asks, in turn, what do these four life forms mean to the amoeba or to man?²³ Like Froebel, Bateson seeks the unity in all things—or in his words, “the pattern which connects all the living creatures.”²⁴

Froebel invented a system of play and learning that does, in fact, connect a child to nature and to that something, if there is a god and a unity, which transcends and connects all living things. I would argue that what Froebel was doing was profoundly important and, ultimately, deeply spiritual. By showing how things are connected, his system was also deeply ecological.

I would like to suggest that understanding how things are connected—i.e., what Bateson refers to as the pattern which connects—is ultimately aesthetic.²⁵ By aesthetic, I mean a critical reflection of nature and the artistic elements created by humankind. In the end, it seems to me that what is most important in scholarship and learning is the ability to see these types of connections. Modern play theory, and, more importantly, education and our schools—for any of a number of complex reasons in a time of standardized tests and accountability—seem to have largely forgotten the importance of such connections. As a result, the experience of children as playful and learning beings is diminished.

According to John P. Manning, Froebel “saw man in a world filled with objects.”²⁶ These were objects that humans must interact with and that must interact with humans—objects that Froebel described as having “form, size, and number” and that “must be taught.”²⁷ It is this tangible element of Froebel’s gifts that warrant our attention together with their abstract, philosophical, and aesthetic underpinnings.

In conclusion, I believe that Froebel and his gifts provide us a means by which to ground our abstract theories of play for children in tangible and engaging learning toys and activities. In doing so, the gifts are not only worthy of being systematically reintroduced into our schools but can provide us with the means to understand how abstract and philosophical ideas in general can be connected to practice and to the lives of children. Manning suggests that Froebel’s first ten gifts can be used in a contemporary educational context to promote objectives such as developing hand strength (first gift), comparing and contrasting (second gift), developing eye-hand coordination (third gift), and so on.²⁸ His arguments are well taken, almost self-evident. When combined with the ideas outlined in this article, they suggest that those interested in educational reform, in the improvement of our schools, and in the play of our children would do well to reconsider the insights of Froebel. Doing so, they

would obtain the means to ground many important philosophical and aesthetic insights and experiences in hands-on and tangible activities.

NOTES

1. Friedrich Froebel, *Froebel's Chief Writings on Education*, trans. S. S. F. Fletcher and James Welton (1912), 97.

2. For background on the conflict between the conservative Froebelians and the progressive Kindergarten Movement, see Evelyn Weber, *The Kindergarten: Its Encounter with Educational Thought in America* (1969); Michael S. Shapiro, *Child's Garden: The Kindergarten Movement from Froebel to Dewey* (1983); and Barbara Beatty, *Preschool Education in America: The Culture of Young Children from the Colonial Era to the Present* (1995). Patty Smith Hill was perhaps the most forceful of the Progressive critics. In this context, see "The Value and Limitations of Froebel's Gifts as Educative Materials Parts I, II," *The Elementary School Teacher* 9 (1908): 129–37. The conflict between the conservative Froebelians and the Progressives came to a conclusion in 1913 with the issuance of The International Kindergarten Union's *The Kindergarten: Reports of the Committee of Nineteen on the Theory and Practice of the Kindergarten* (1913). In this report, the view that "a restatement of Froebelian principles seemed to be necessary in light of the recent contributions of biology, sociology, and modern psychology to the science of education" prevailed (statement from the preface of the report by Lucy Wheelock).

3. See Ann Taylor Allen, "Spiritual Motherhood: German Feminists and the Kindergarten Movement, 1848–1911," *History of Education Quarterly* 22 (1982): 321.

4. Beatty, *Preschool Education in America*, 40.

5. Allen, "Spiritual Motherhood," 322.

6. Froebel's educational philosophy was primarily explicated by his followers. The most useful of his works for understanding his philosophical perspective is *The Education of Man* (1900), which was first published in Germany in 1826. See also Henry Barnard, ed., *Kindergarten and Child Culture Papers* (1884); Susan E. Blow, *Symbolic Education: A Commentary on Froebel's "Mother Play"* (1895); Edward Wieb , *The Paradise of Childhood* (1869); Kate Douglas Wiggin and Nora Archibald Smith, *The Republic of Childhood*, vol. 1, *Froebel's Gifts* (1895); and Kate Douglas Wiggin and Nora Archibald Smith, *The Republic of Childhood*, vol. 2, *Froebel's Occupations* (1896).

7. See Norman Brosterman's discussion of this issue in *Inventing Kindergarten* (1997), 35.

8. *Ibid.*, 36.

9. *Ibid.*

10. Ann E. Boehm, *Boehm Test of Basic Concepts (Manual)* (1969), 12.

11. *Ibid.*, 3.

12. See Beatty, *Preschool Education in America*, 42, for the source of these quotes, which were originally taken from Froebel's discussion of his laws of learning included in *The Education of Man*.

13. Mrs. John [Marie] Krause-Boelte, "Characteristics of Froebel's Method," *Addresses and Proceedings*, National Educational Association (1876), 219.

14. *Ibid.*, 220.

15. "Buckminster Fuller, Thinking Out Loud," video, produced and directed by Karen Goodman and Kirk Simon (Zeitgeist Films, 1996), quoted by Brosterman, *Inventing Kindergarten*, 84.

16. See specifically works such as Jean Piaget's *To Understand Is To Invent* (1974).

17. See note 6.

18. Frank Lloyd Wright, *An Autobiography* (1943), 13.

19. *Ibid.*, 14.

20. Frank Lloyd Wright, *A Testament* (1957), 13.

21. See Eugene F. Provenzo, Jr., and Arlene Brett, *The Complete Block Book* (1983).

22. See, for example, Grant Carpenter Manson, *Frank Lloyd Wright to 1910: The First Golden Age* (1958), 5–10.

23. Gregory Bateson, *Mind and Nature: A Necessary Unity* (1979), 8.

24. *Ibid.*

25. *Ibid.*, 8–9.

26. John P. Manning, "Rediscovering Froebel: A Call to Re-examine His Life & Gifts," *Early Childhood Education Journal* 32 (2005): 373.

27. Froebel as quoted by Manning, *ibid.*, 372.

28. *Ibid.*, 374.