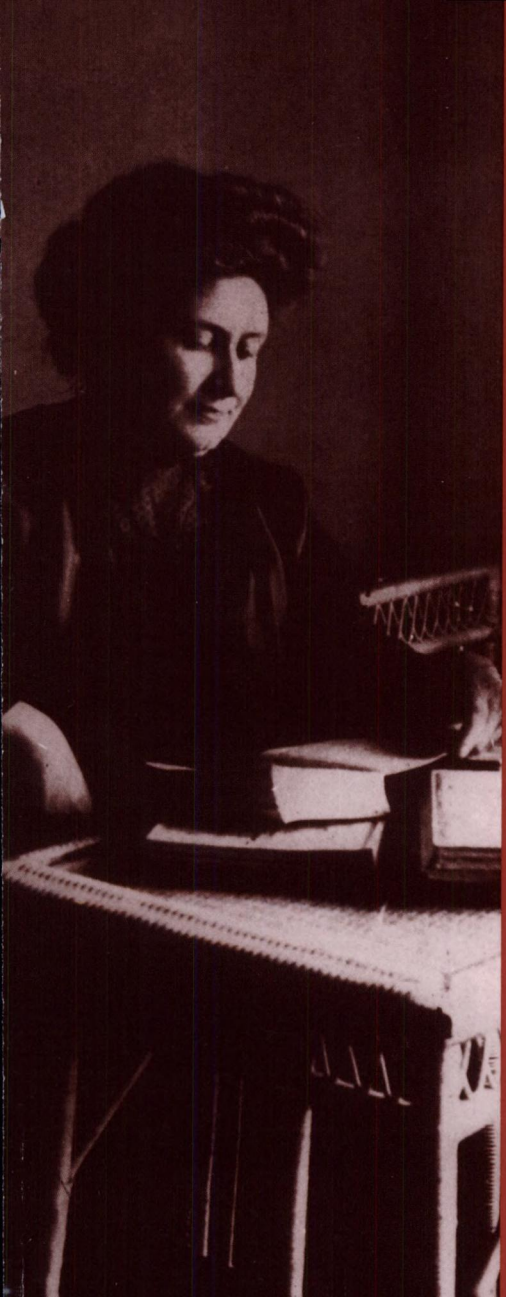

The Montessori Method

The Origins of an Educational Innovation: Including an Abridged and Annotated Edition of Maria Montessori's *The Montessori Method*

Maria Montessori

Edited by
Gerald Lee Gutek

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Introduction: A Biography of Montessori and an Analysis of the Montessori Method

BIOGRAPHY

Today, Maria Montessori enjoys global acclaim as one of the world's great educators. Her life story is a remarkable one—one in which a dedicated woman used her scientific training, her experience, and her insights to develop a method of education that challenged conventional patterns of education. The conventions she challenged were not only educational ones: she had to surmount the obstacles that limited the freedom of women to enter into new careers.

Maria Montessori was born on August 31, 1870, in Chiaravalle, a hill town overlooking the Adriatic Sea, in Italy's Ancona province. She was the only child of Alessandro Montessori, a business manager in the state-run tobacco monopoly; and Renilde Stoppani, the well-educated daughter of a highly respected family.[1]

Maria Montessori was born only ten years after Italy's unification, under the House of Savoy. As a result of the "Risorgimento," led by Camillo Cavour, a liberal statesman, and Giuseppe Garibaldi, a fiery patriot, the small states and principalities on the Italian peninsula were finally united as one country in 1871. Giuseppe Garibaldi's red-shirted volunteer army, the Carbonari, had toppled the old bourbon kingdom of the "Two Sicilies," and the armies of Piedmont-Sardinia had brought Victor Emmanuel to Italy's throne as a constitutional monarch.

The new Italy was a product of the forces of nationalism and liberalism. Nationalists, such as Garibaldi, wanted Italy to take its place in the political sun. Liberals such as Cavour wanted to move Italy forward as a modern industrialized nation. Strong remnants of conservatism and traditionalism,

however, resisted Italy's modernization. Serious opposition came from the pope, who, smarting from the annexation of the Papal States to Italy and regarding himself as the "prisoner of the Vatican," refused to recognize the new political reality. Maria Montessori's uncle, Antonio Stoppani, a noted naturalist and Roman Catholic priest, called for reconciliation between church and state. Maria's father, Alessandro, while remaining a committed Catholic, took a position in the new state's civil service.

Although Italy's emergence as a sovereign nation was recent, Italian culture reached back to the antiquity of ancient Rome. The new nation in which Montessori was born, in 1870, remained still very much the old, traditional, and conservative Italy. Although industrialization was slowly changing the class structure, social and gender roles were inherited across time and generations. *La famiglia*, the family, was the primary focus of most Italians' identification, loyalty, and commitment. A person's education and career remained largely determined by family background and social status. The children of peasants were destined to take their parents' place on Italy's farms and landed estates. Middle-class males were likely to oversee estates, manage businesses, or engage in commerce. Children of the landed aristocracy would continue to enjoy the benefits of inherited wealth that made them a leisure class.

If family and class determined the status and careers of Italian males, women's roles were even more fixed by custom and tradition. While membership in a particular class was a conditioning factor, women were expected to become the central sustaining force in their families as wives and mothers. With their roles so determined, higher and professional education were not usually accessible to women. Society allowed and economic necessity required women of the lower socioeconomic classes to work as agricultural, domestic, or factory laborers. Daughters of the lower-middle class might become elementary school teachers or nurses. Young women of the aristocracy might attend finishing schools or convent schools to learn art, music, and literature. Challenging Italy's nineteenth-century gender conventions, Maria Montessori would enter a technical secondary school to study engineering and, later, the University of Rome's medical school to become Italy's first degreed female physician.

Alessandro Montessori's position in the Italian civil service provided his family with economic security. The Montessori family was comfortably situated in the European bourgeoisie, the middle class. Signor Montessori, a decorated veteran of the war for Italian unification in 1848, retained his military bearing throughout his life. Despite the social and economic transformation that was taking place in the new Italy, he epitomized the attitudes and values of Victorian middle-class respectability. His strong-willed daughter was to

challenge many of these traditional expectations about the proper role to be played by a young woman.

Renilde, Alessandro's wife, was a niece of Father Antonio Stoppani, a scholar-priest, known for his work as a natural scientist and geologist. Though a traditionally educated middle-class woman, Renilde was more willing to break with tradition than her husband. At certain crucial times, she supported her daughter's challenges to convention. At first, Alessandro would balk at supporting his daughter and wife, but eventually he acquiesced.

In 1875, Alessandro was assigned to a position in Rome, and the Montessori family moved to the Eternal City, and Italy's capital. Here, in one of the most important centers of Western civilization, Maria, the family's only child, enrolled in the state elementary school located on the Via di San Nicolo da Tolentino. Maria's education in the local primary school followed the traditional approach that learning comes from the teacher's transmission of information to children, through textbooks and recitations. The key instructional routines involved memorization of textbooks, the recitation, and dictation. In Italian schools, the children often used a single textbook that combined in one volume all the subjects taught—reading, writing, arithmetic, history, and geography. The recitation method required children to stand at attention when questioned by the teacher and provide accurately memorized responses from the textbook. Italian schools in particular featured dictation, in which students would copy word-for-word statements made by the teacher. Each letter of the alphabet had to be placed squarely in a small box marked on a copybook. While providing basic literary and mathematical skills, traditional schools discouraged and often punished children's spontaneity and creativity. In this view, the teacher held center stage in the classroom, and the student was a passive receptacle of information, which was to be stored in the mind and recalled for examinations and possible use in the future. Later educators such as Paulo Freire would call this storage-and-retrieval approach to learning the "banking" method of education in which information was deposited and stored for later use.[2] When she created her method of education, Montessori turned this view upside down. The individual child would become the focus, the center of education; and the teacher, a director, who unobtrusively guided the child's own self-learning.

The Italian educational system in the late nineteenth century followed the continental European pattern of being heavily class determined. The Cassati Law of 1859 provided for the establishment of national primary (or elementary) schools. Compulsory education laws were not rigorously enforced, however. Italy, especially the southern regions, had a high percentage of illiterates.[3] At the secondary level, the schools followed the continental European model and were specialized into the highly academic college-preparatory schools, the *liceos*, and

into a range of technical and vocational schools, specializing in engineering, art, agriculture, and commerce. Only a very small number were admitted to university studies. As a member of the middle class, Montessori had the opportunity to complete elementary school. Her determination to pursue a technical secondary education and medical school, however, departed radically from the educational expectations at the time, which would have sent her to a finishing school, generally operated by a religious order of nuns, or to a normal school to prepare as an elementary school teacher.

Maria's parents carefully monitored their daughter's education. Her father, who recognized his daughter's academic abilities, encouraged her study of mathematics. Although her father sometimes resisted Maria's unconventional career decisions, her mother generally supported Maria's decisions. At age twelve, Maria displayed her characteristic independence by declaring her intention of entering a technical secondary school.

In 1883, thirteen-year-old Maria Montessori enrolled in the Regia Scuola Technica Michelangelo Buonarroti, a state technical school. As a student in the Scuola Technica, Maria pursued a seven-year curriculum, approved by the national ministry, that included Italian literature, French, mathematics such as algebra and geometry, sciences such as chemistry and physics, history, and geography. Instruction followed the conventional method of attending lectures, memorizing textbooks, and responding to the instructors' questions with structured recitations. Montessori graduated from the technical school in the spring of 1886 with high marks in her subjects and with a final cumulative grade of 137 out of a possible 150.[4]

Upon completing her studies at the Scuola Technica, Maria next entered the Regio Instituto Technico Leonardo da Vinci, in which from 1886 to 1890 she studied subjects related to engineering. In 1890, in an important career decision, she decided to leave her engineering studies to study medicine. Her application to the University of Rome's School of Medicine was at first rejected by the all-male faculty. The highly determined young woman persisted, and the faculty agreed to admit her to the University of Rome in the fall of 1890 as a student of physics, mathematics, and natural sciences. She passed the examinations for the *diploma di licenza* in 1892, earning a final grade of eight out of a possible ten points. She was now academically eligible to begin the actual study of medicine, anatomy, pathology, and clinical work. Montessori was the first woman to be admitted to the medical school.[5]

Since medical studies, like the medical profession, were completely male dominated, Montessori encountered regulations and practices that discriminated against women. Her male colleagues shunned and tried to isolate her. She could not enter a classroom until all the male students were seated. Since dissection of a naked cadaver was regarded as improper for a woman, she

could only use the anatomy laboratory in the evenings, when male students were absent. Determined to surmount these obstacles, Montessori distinguished herself, winning scholarships in surgery, pathology, and medicine.[6]

During her last two years of medical school, Montessori studied pediatrics at the Children's Pediatric Hospital, an experience that moved her toward what would be her lifelong calling. She also served as an adjunct, or assistant, doctor at the women's hospital of San Salvator al Laterano and at the Ospedale Santo Spirito for men, in Sassia. In 1896, Maria Montessori achieved another distinction. She was the first woman in Italy to be awarded the degree of Doctor of Medicine. The twenty-six-year-old physician accepted a position at the university's San Giovanni Hospital, and she also began private practice.

Montessori's achievements in education and medicine had made her a woman of distinction in turn-of-the-century Italy. Although her contributions to the women's movement have been overshadowed by her achievements in education, Montessori was influential in the European women's movement. She was a member of the Italian delegation to the International Women's Congress, in Berlin, in September 1896. When tensions between socialist and bourgeois women threatened to disrupt the congress, Montessori, urging compromise, argued that the rights of all women, not class and political differences, should be the focus of the women's movement. In several addresses to the congress, she called for the improvement of Italian women's social and economic status. She urged women to take a leading role in educational reform and to work as literacy volunteers among the poor. She also sponsored a resolution demanding equal pay for equal work.[7]

In February 1899, Montessori was on a lecture tour, speaking on the "new woman." In many respects, she herself was the model for this new woman. According to Montessori, the women of the twentieth century would be the "new women," in transition from the old order to the new. She was optimistic about the liberating powers of science and technology that she predicted would free the new women from the gender-designated drudgery of domestic work. Science and technology would free them to genuinely fulfill themselves as persons. The process of liberation, she advised, would require women to educate their children according to the new pedagogy based on the scientific study of children's needs.

In developing her case for the new woman, Montessori attacked the stereotypes used to support the theory of female inferiority. She condemned scholars who, failing to use scientific research, relied on unsubstantiated clichés about women's alleged inferiority. Montessori challenged the French historian Jules Michelet (1798–1874), who argued that women were naturally weak and required tutelage and training from the more powerful

work with the real wild boy was quite different. Unlike Emile's laissez-faire and permissive tutor, Itard sought to find specific ways to train the child. In dealing with intelligence, Itard found that intelligence, while a given, developed by having the appropriate experiences at the right time of development.

Montessori was deeply impressed by Itard's work. A physician like Itard, Montessori was trained in clinical observation. Readily accepting Itard's ideas on empirical observation, she called his efforts practically "the first attempts at experimental psychology."[17]

Seguin, a physician, who had studied medicine with Itard, worked with mentally impaired children and applied his methods at the Hospice de Bicetre, a training school for children taken from the insane asylums of Paris.[18] Seguin believed that institutions for handicapped children should become centers of training and education and that both medical and pedagogical knowledge should be used to treat the handicapping condition. He increasingly emphasized the physiological measurement and observation of the child as a means to diagnosis, treatment, and education. Seguin devised a series of didactic apparatus and materials to train the senses and improve the physical skills of children with mental handicaps. In his work with these children, Seguin developed several techniques that would be adopted by Montessori, such as basing instruction on developmental stages using didactic training materials and training children to perform practical skills so that they could achieve some degree of independence.[19] Seguin's pioneering efforts in special education were a catalyst that stimulated Montessori to delve more deeply into education. From the work of Itard and Seguin, Montessori developed two principles: first, that mental deficiency required a special kind of education and not only medical treatment; second, that this special kind of education was enhanced by the use of didactic materials and apparatus. However, in the education of mentally deficient children and, indeed, all children, the teacher's activities were spiritual in that it was necessary to act on the spirit of the child, which was a "sort of secret key."[20]

Education of Children with Mental Handicaps

In September 1898, Montessori addressed the Pedagogical Congress in Turin on the subject of the education of mentally retarded children. At that time, mental retardation was not categorically defined but included a range of children, including those who were physiologically impaired as well as those who were referred to as "laggards," delinquent, and emotionally disturbed children. Condemning the prevailing practice of confining mentally impaired children to insane asylums with adults, she urged that they be admitted to educational institutions. Arguing that mental retardation was primarily a pedagogical problem, rather than a medical one, she recommended that these problem children

be gathered together in special educational environments. This separation, she argued, would free the teacher of regular classes from having to cope with serious cases of disability. Further, children in the special classes would receive the necessary individual attention, and they could therefore proceed at their own pace without having to move with the larger group. In addition, these special classes were to have the services of a psychiatrist and pediatrician—specialists who could determine each child's individual needs and prepare an individualized learning prescription for each child.[21]

In light of today's mainstreaming of children with handicaps into the least restrictive classroom environment, Montessori's call for special classes needs to be considered in the context of 1890s. At that time, in Italy, mentally retarded children were often identified as "idiots" and confined with adults in insane asylums with no special care. Children who were called "laggards" (or delinquents), who were disruptive and chronically truant from schools, were usually expelled and either roamed the streets or were exploited as child laborers. In the context of the times, Montessori was suggesting a reform. If we take her recommendation out of its context, she might be criticized (by modern standards) as suggesting the social and educational isolation of children with special needs. When considered in terms of historical sequence, the creation of special classes might be judged to be a necessary first step for today's mainstreaming. In any event, her recommendation that a teacher, pediatrician, and psychiatrist diagnose children with special needs anticipated what today is called the multidisciplinary staffing. In this staffing, a team of experts provides a comprehensive assessment of an individual child's learning difficulties and how they might be remedied.

In 1900, the Scuola Magistrale Ortofrenica, the Orthophrenic School, opened with Montessori and Dr. Giuseppe Montesano as codirectors. By training hearing-impaired and mentally deficient children, the school provided an educational environment in which teachers could be prepared to work with children who had these handicapping conditions. Montessori directed the Orthophrenic School for two years, from 1900 to 1901.

Based on her own medical education, which was based on extensive work with mentally deficient children and on her reading of Itard and Seguin, Montessori concluded that the methods used in training children with mental deficiencies could be applied to normal children, especially those of a young age. Seeing a parallel between the two, she wrote, "During the period of early infancy when the child who has not the force to develop and he who is not yet developed are in some ways alike."[22] Specifically, the parallelism was evident in children's motor coordination and their sensory and language development. Methods that aid in the training of children with mental deficiencies could be applied, with great success, to the education of normal children.

At the Orthophrenic School, Maria and Giuseppe developed an intimate relationship. Montessori became pregnant and bore Giuseppe's son, a boy, whom they named Mario. The date of Mario Montessori's birth is not firmly established. He claims his birth date on March 31, 1898, but Kramer, a Montessori biographer, indicates it was more likely in 1901. Shortly after his birth, Mario was sent to live with a wet nurse in the country. Montesano's family, especially his mother, opposed a marriage. Montesano made it a condition of his legally recognizing the child that the birth be kept secret except for family members. Montessori, who seemed to have her way on so many other decisions, apparently acquiesced. Shortly afterward, Montesano married another woman, and Montessori left the Orthophrenic School. Montessori's child was raised by others and at seven went to a boarding school near Florence.[23] When Mario was fifteen, after the death of Montessori's mother, Mario came to live with his mother. He was first publicly presented as Montessori's nephew and then as her adopted son.[24] Over time, Mario Montessori would become his mother's closest associate in publicizing and implementing the Montessori method and in founding and administrating the Association Montessori Internationale.

Situating Montessori in Educational Theory

Montessori's study of children's mental illnesses motivated her to study education as a more general field. She decided that she needed to pursue more advanced studies in the foundations of education. She returned to the University of Rome, where she studied psychology, anthropology, educational history and philosophy, and pedagogical principles.

The world of educational theory Montessori entered at the beginning of the twentieth century was itself undergoing fundamental revision. While textbooks and recitations still dominated instruction in schools, educational pioneers such as Rousseau, Pestalozzi, and Froebel had provided new insights into children's nature and children's education. The French philospher Rousseau, in his classic work *Emile*, expounded a theory of natural education in which children were liberated from oppressive social conventions.[25] Despite Rousseau's emphasis on children's freedom, Montessori found much to question in Rousseau's ideas, especially his romantic view that children learn best by following their instincts and impulses in an unstructured natural environment. The Swiss educator Johann Heinrich Pestalozzi (1774–1827) had developed a theory of education that urged that schools be reformed into homelike places where children felt emotionally secure and in which they learned by using their senses in specially designed object lessons.[26] Pestalozzi's emphasis on learning through sensation and through work with

objects was an antecedent of Montessori's emphasis on sensory training. Of the three educators, Montessori was most often compared to and contrasted with the German educator Friedrich Froebel (1782–1852), the founder of the kindergarten.[27] Like Montessori, Froebel had developed the idea that early childhood education should take place in a specially created environment, the kindergarten, or the "child's garden." According to Froebel, an adherent of idealist philosophy, children were endowed with inner spiritual powers that unfolded in an educational environment that encouraged learning through self-activity and the use of specially designed materials, such as (what he termed) "gifts and occupations."

As she became more knowledgeable about these important educational theories, Montessori recognized their value but also found them scientifically inadequate. Through promoting children's dignity and freedom, she found that Rousseau, Pestalozzi, and Froebel had relied on a philosophical, rather than a scientific, view of children. From introspecting on their childhood experiences, they had deduced what it is like to be a child and had generalized these views to embrace all childhood. Rousseau's wild romanticism had ignored the child's need for a structured learning environment. Pestalozzi's emphasis on using objects as the basis for learning, while on the right track, was too formal, routine, and mechanical. Froebel's kindergarten was so steeped in philosophical idealism that it was not grounded in modern science and psychology. Though recognizing the contributions of her predecessors, Montessori would remedy their deficiencies by turning to the actual observation of children, in clinical fashion, for her ideas on educational method.

At the same time that Montessori had determined to create a scientifically based pedagogy in Italy, educators elsewhere in the world were developing new insights into education. In the United States, progressive educators were developing new methods of education. At the Cook County Normal School in Chicago, Colonel Francis Parker (1837–1902) stressed learning through experience by means of nature studies, field trips, and activities.[28] John Dewey (1859–1952), an experimentalist philosopher, was using his Laboratory School, at the University of Chicago, as a center to test his theory of learning through experience, activities, and problem solving.[29] During much of Montessori's life, Dewey was the dominant theorist in American education; however, his idea of how science should be applied to education was significantly different from that of Montessori. While Dewey's philosophy was based on relativism, Montessori emphasized universals. William Heard Kilpatrick (1871–1965), a leading progressive, would become an early and severe critic of Montessori.[30] Kilpatrick would implement Dewey's pragmatic philosophy into his highly popular project method. Kilpatrick would fault Montessori on being out-of-date and inadequate in the areas of the child's socialization and creativity. These progressive

educators—Parker, Dewey, Kilpatrick—who would become dominant figures in American educational theory, were taking a different path in early childhood education than that of Montessori. The progressives came to stress the school as a socially oriented embryonic society in which children learned by using the scientific method in a permissive environment. Enthusiastically calling for democracy in education, the progressives denied the role of absolute principles and urged freedom and activity. Montessori's approach to education, with its emphasis on learning in a structured environment with didactic materials would differ from that of the American progressives.

Still, yet another highly significant way of looking at childhood was emerging in Europe. In Vienna, Sigmund Freud (1856–1939), in his development of psychoanalytic psychology, was coming to recognize the role that the irrational played in human growth and development.[31] Childhood, Freud was finding, was more than spontaneous freedom and imitative play, as Rousseau, Pestalozzi, and Froebel had suggested. It was more than the opportunity to become democratic participants in an open-ended society, as Dewey, Kilpatrick, and the American progressives were urging. Freud's ideas were beginning to reshape the conception of children's nature. For him, early childhood was a time of sexual feelings and societal repressions that shaped the human being's psyche and had consequences for the adult personality. The "Oedipus complex" was a theory Freud developed regarding infant sexuality, in which the child desired to possess the parent of the opposite sex. Freud believed that children go through a sequence of psychosexual developmental stages. If the child was overgratified or repressed during any particular stage, the personality would become fixated at that stage. The way in which needs were satisfied or blocked had consequences for the person's self-esteem and personal, social, and sexual relationships. Lingering unresolved issues and conflicts, originating during the stages of development, may cause problems of psychological balance and adjustment throughout a person's life. Psychoanalytical therapy was a means of identifying the conflict, lodged in the subconscious, and bringing it to consciousness. In this way, the person could recognize the issue, examine it, and resolve it.

There were some parallels in the paths that Freud and Montessori took in their careers. Like Montessori, Freud was a medical doctor who, studying mental illnesses specialized in neurology, then moved on to psychology. Both Montessori and Freud had arrived at a theory of child development. Like Montessori, Freud lectured in the United States. Freud and Montessori were aware of each other's views on early childhood. Though Montessori and Freud both advocated children's freedom, their theories of development were quite different. Montessori rejected Freud's ideas on infant sexuality and the long-term significance of emotional conflict on later development.[32]

attempt at a larger effort to bring about social reform through educational means. Montessori's broad understanding of the nature of social change and its relationships to education positioned her among the leading social reformers of the early twentieth century.

In founding the Casa dei Bambini, Montessori was guided by sociological and educational aims that she had developed during the various stages of her career. Located within the tenement, where the children's families' lived, the school was to act as an vital organic connection between education and society, represented by the family. Not only was her method a means to educate children more humanely and effectively, but it was intended to aid in the social regeneration of San Lorenzo's impoverished residents. Like Jane Addams, Montessori believed that in modern society, aid could no longer be in the form of alms' giving to the poor, as in the older medieval view of charity. In the past, charity was given by well-intentioned individuals to aid the victims of poverty and disease.

In the modern era, with its rapid industrialization and urbanization, Montessori believed that to bring about social reform the concept of private charity needed to be rethought and enlarged into a more comprehensive and more focused effort. Unless larger, more concerted, and planned efforts were made to reduce the sectors of poverty such as San Lorenzo, Montessori feared that modern society would face a great divide, a large chasm separating the rich and the poor. If the trend continued, the poor would be isolated in poverty-ridden ghettoes, which Montessori called "islands of the poor."[37] In the modern era, the concepts of charity needed to be reconstructed to not only provide immediate relief to the poor but to remediate the conditions that caused social and economic distress. Individual charity needed to be socialized by creating established agencies to prevent illness, improve diet and hygiene, educate children and adults, and reform society. These social agencies, Montessori argued, would improve the quality of life, be more efficient than unorganized individual efforts, stimulate economic productivity, and make individuals independent of the dole.[38]

Educationally, the Children's House was designed to be a school-home, an educational agency in close proximity to the children's family homes. Indeed, it was actually in the building where the children lived. Montessori stated, "We have placed the school within the house . . . as the property of the collectivity." The school would contribute to the socialization of the family and household, which in turn would connect the household to the larger community.[39]

The actual physical proximity of the children's home to the school had a socioeconomic dimension related to Montessori's model of the twentieth century's "new woman." The Casa dei Bambini was located in a working-class area where the majority of mothers toiled in Italy's developing industries.

However, Montessori reasoned that not only would working-class women be employed outside of the home but also more women of all socioeconomic classes would join the workforce in the future. Industrialization and technological innovation was the driving force in bringing about this change in women's work. Schools, as educational institutions, needed to recognize this technologically generated change and provide for the children of working mothers. Schools, such as the Casa dei Bambini, would make it possible for mothers to safely leave their children and "proceed with a feeling of great relief and freedom to their own work." Despite the change in working patterns and locations, Montessori advised that mothers would nevertheless continue to have the greatest responsibilities for the physical and moral care of their own children. The Casa dei Bambini would assist them to meet these maternal responsibilities while finding work and recreation outside of the home.[40]

Montessori then had several motives in mind when establishing the Casa dei Bambini, the prototype of all later Montessori schools: first, the social and economic motives of social reform, especially the improvement of the condition of the working class; second, the motive that the school was a means of aiding working mothers who would contribute to the general movement for women's equality and rights. However, the Casa dei Bambini was primarily a place for children's education; it was not a design to create a social utopia, nor was it merely a center for children's day care for working mothers. As the new school for the new age, it offered education based on the principles of scientific pedagogy.

One of Montessori's overarching pedagogical principles was that children's learning was best accomplished in a structured and orderly environment. She insisted that children attending her school and their parents follow some explicit regulations. No matter how poor they were, children were expected to come to school with clean bodies and clothing. They were to wear a clean smock or apron. Believing schools were most effective when closely related to the children's families and homes, parents were expected to be interested in and support their children's education and to attend frequent conferences, termed "parent–directress" conferences (to be explained in the following).

Like John Dewey at the University of Chicago Laboratory School, Montessori made sure that the school's physical arrangements, the tables, chairs, and apparatus, were suited to children's needs rather than adult preferences. She did not want the classroom and its furniture to limit the children's freedom of movement, as it did in traditional schools. Tables and chairs were sized according to children's heights and weights. Washstands were positioned to be accessible for younger children. Classrooms were lined with low cupboards where children could easily reach didactic materials and be responsible for returning them to their proper place. The Montessori school was designed to

cultivate children's sensory sensitivity and manual dexterity, to allow them a degree of choice within a structured environment, to build a climate of order, and to cultivate independence and self-assurance in performing skills.

Montessori's conception of the role of the teacher varied from that of the traditional school. While teachers in conventional elementary schools occupied the center of the educational stage as the focal point for the children's attention, Montessori renamed her teacher a "directress" who was to guide children as they taught themselves to learn. The directress, an educator properly trained in the Montessori method, was to guide children in their own self-development.[41] Trained in the clinical observation of children and scientific pedagogy, the directress needed to be sensitive to children's readiness and stages of development. She was to establish the prepared environment, with its appropriate apparatus and materials, and cooperate in the children's own self-education.

The curriculum of the Casa dei Bambini was based on Montessori's principle that children experience crucial times in their development, called "sensitive periods." During these sensitive periods, the children were in a high state of readiness for particular kinds of learning activities, such as sensory training and language learning, as well as exercising motor skills and acquiring social adaptation. To aid the children's development during these sensitive periods, the children were provided with self-correcting didactic materials and apparatus that they selected themselves. Montessori skillfully surmounted the problem of motivating learners that teachers faced in group-learning situations in traditional schools. Since the children selected their own activities and materials, they were self-motivated. Since the materials were self-correcting, each child working at his or her own pace required little teacher intervention. The use of self-correcting educational materials was based on Montessori's belief that children would acquire self-discipline and self-reliance by becoming aware of their own mistakes and repeating a particular task until they had mastered it.

Based on her theory of sensitive periods, Montessori, through observation and experimentation, designed a curriculum that sought to develop children's competencies in three areas: practical life skills, motor and sensory training, and more formal literary and computational skills and subjects. This curriculum was not all in place when Montessori opened the Casa dei Bambini, but its various pieces came together to form a complete method of education.

First Group: Exercises of Practical Life

Montessori designed the practical exercises so that children could use them to develop the skills needed in everyday life, such as serving food, washing one's

hands and face, tying a shoelace, or buttoning a shirt or blouse. The aim of the exercises was to move children from being dependent on adults to performing the exercises independently. The practical skills were generic in that once a child had mastered a particular skill, such as tying, lacing, or buttoning, the skill could be transferred to the many occurrences when it was needed in daily life. Designed to exercise and develop motor, muscular, and coordination skills, the successful performance of everyday skills gave children a sense of independence and a self-confidence that they could do things without adult assistance. The everyday life activities included washing and dressing oneself, setting tables and serving meals, housekeeping, gardening, gymnastic activities, and rhythmic movements. Using frame pieces of cloth with buttons, laces, and hooks, the children practiced fastening, buttoning, zipping, lacing, and tying skills that they could transfer to the buttoning and hooking of their own clothing and the tying of their own shoes. The school also utilized ordinary household objects—washbasins, dishes, silverware, and gardening tools. Washstands and tables were proportioned to the children's sizes so that they could easily reach them. Cabinets to store materials were accessible so that children could reach them and then return materials to their proper location.

Second Group: Sensory Training

Montessori designed the materials and activities for sensory education to develop the children's ability to perceive distinctions in color and hue and in sound and tone, and the curriculum included the skills needed to manipulate various kinds of objects. The sensory exercises were designed to cultivate three kinds of skills: discernment of color and hue, sensitivity to smell and sound, and making comparisons and contrasts. Montessori developed an order to using the materials. They began with a series of solid insets—wooden cylinders of different sizes, to be inserted in holes of the same size in a wooden block. Then, with ten pink wooden cubes of graduated size, the child built a tower, then knocked it down and rebuilt it. In addition, there were ten brown wooden prisms and ten red rods with which the child built a broad and long stair. There were geometric solids (pyramids, spheres, cones), little boards with rough and smooth surfaces and others of different weights and colors, and pieces of fabric of different textures. There were wooden plane insets, a little cabinet of drawers, each containing framed geometrical figures—blue triangles, circles, squares of different sizes—to be taken out and replaced correctly in their frames. There were cards with paper geometrical shapes pasted on them, a series of cylindrical boxes filled with different materials that produced different sounds when shaken; sixty-three little tables in nine different shades, from light to dark and of seven different colors. A series of

musical tone bells was used with a wooden board that had musical staff lines and a set of wooden disks to represent the notes. The tone bells were used to develop the child's ability to discriminate between various tones. Sensory boxes included those filled with spices with distinctive odors. As the child worked with the didactic materials, he or she learned to recognize, group, and compare similar objects and contrast them from dissimilar ones.

Third Group: Language Development

In her work at the Casa dei Bambini, Montessori faced the common problem that besets all primary school teachers—how to teach reading and writing. Montessori opposed the commonly held idea that reading and writing needed to be imposed on children. Convinced of the power of what she termed "auto-education," she believed that when children were ready to read and write, they would do what was needed to develop these skills. Through trial and error, she developed materials that were conducive for readiness for reading, writing, and arithmetic. These materials included sandpaper letters, boxes of color-cardboard letters and numbers, and counting rods—square-sided sticks of different lengths and different colors representing different numbers—as well as strings of different lengths with various numbers of beads of different colors.[42]

Montessori's claim that children of four and five years "burst spontaneously into writing" attracted considerable attention from her proponents and some skepticism from critics. Montessori saw writing and reading as being developed in close relationship. To create readiness for them, she devised letters cut out of cardboard and covered with sandpaper. As the children touched and traced these letters, the directress would voice the sound of the letter. While the children were being prepared to write the letter by the movements needed to trace its shape, they fixed the letter in their minds and came to recognize the sound it represented. Children discovered reading when they understood that the sounds of the letters that they were tracing, and then writing, formed words. When the children knew all of the vowels and some of the consonants, they were ready to form simple words. Using the vowels, the directress would show the children how to compose three-letter words and pronounce them clearly. In the next step, the children would write the words dictated by the directress. After enough practice, the children were able to compose words without assistance. In teaching arithmetic, counting was taught by arranging objects according to their number and by measuring them using a series of colored rods of varying lengths.

Children learned about the natural environment by planting and cultivating gardens, which Montessori believed established the intellectual connection about the sprouting of seeds and the growing of plants within the larger world

including the United States, to attend her lectures, interview her, and observe her method and schools. Among the Americans were the child psychologists Arnold and Beatrice Gesell, the publisher Samuel S. McClure, and such professors of education as Howard Warren of Princeton, Arthur Norton of Harvard, Lightner Witmer of the University of Pennsylvania, and William Heard Kilpatrick of Columbia University's Teachers College.[44] Some of these visitors were intent on becoming disciples who would introduce the Montessori method to their own countries; others were educational journalists who were researching articles and books about the Italian educator. Still others, such as Kilpatrick, would become severe critics.

In terms of perpetuating an innovation, it is necessary that it have continuity across time so that it has a life that extends beyond that of its originator. To perpetuate her method and to ensure that it was being introduced without distortion, Montessori turned to teacher preparation. She established a training school to prepare Montessori directresses. An American disciple who journeyed to Italy ecstatically praised Montessori as a "magical personality that makes her words seem winged messengers of light and the mighty fever of enthusiasm is amazing to the beholder."[45]

Montessori trainees were generally young women, often talented in art and music but drawn to education. In the early twentieth century, elementary teaching was highly feminized, and the propensity of Montessori education to attract women to its ranks was to be expected since Montessori schools were early childhood schools, generally taught by women. Montessori's relationship to her trainees was that of the mother-leader. Her students were her disciples. Demanding loyalty and commitment, she expected those whom she prepared as directresses to maintain the method in its pure form, as she had designed it. This kind of relationship was not satisfactory to some of the trainees, especially those who wanted to put their own personal stamp on it. Montessori regarded experimentation with her method to be a disloyal kind of revisionism. Because of this attitude, there was a coterie of loyal Montessorians but also those regarded as schismatics, who deviated from the system. It is an interesting incongruity that Montessori, who wanted children to become independent and who wanted women in general to become independent, did not accept independence from her educational associates.

A characteristic of Montessori's approach to teacher education was that the method should be learned and used without deviation from her original pattern. While this guaranteed methodological consistency, it created some serious obstacles to its dissemination. First, the number of directresses would be small since Montessori so rigorously controlled their training. Further, there were questions about the need to reformulate the method to increase its applicability in different national and cultural settings.

Montessori Comes to the United States

Montessori and her method aroused international interest. The United States, where over one hundred Montessori schools were operating in 1913, seemed particularly receptive to the Italian educator. American enthusiasts formed a national organization, the Montessori Educational Association, to promote her method. Many of her American advocates were individuals who generally supported progressive causes. The association, with Mrs. Alexander Graham Bell as president, included such prominent individuals on its board of directors as Margaret Wilson, the daughter of President Woodrow Wilson; Philander P. Claxton, the U.S. commissioner of education; Samuel S. McClure, publisher of the widely read *McClure's Magazine*; and Dorothy Canfield Fisher, a well-known writer on education and cultural subjects.[46]

Dorothy Canfield Fisher (1879–1958) provides an example of some Americans who were attracted to the Montessori method and who promoted it in the United States.[47] Fisher was a well-known author who supported progressive causes. Like Montessori, she urged modern women to pursue careers while maintaining their familial roles as wives and mothers. Although not a professional educator, Fisher wrote on educational topics for the general reader. She visited Montessori's school at the Franciscan Convent, on the Via Giusti in Rome, in 1911. Upon her return, she began to publicize and promote the Montessori method. Her book *A Montessori Mother* was published in 1912. Enthusiastically endorsing the Montessori method, Canfield wrote,

> The teacher, under this system is the scientific, observing supervisor of this mental "playground" where the children acquire intellectual vigor, independence, and initiative as spontaneously, joyfully, and tirelessly as they acquire physical independence and vigor as a by-product of physical play.[48]

Along with Fisher, one of Montessori's leading American disciples was Anne E. George, who had been a teacher at Chicago's Latin School. After visiting Montessori's school in Rome in the summer of 1909, George wrote,

> Dr. Montessori took me to her schools, showing me in detail how she gave her lessons. The impression made by those mornings has stayed with me and has been my guide in all my work since. Dr. Montessori's simplicity was a revelation. Whenever we entered a class-room, I distinctly felt that a new and sweeter spirit pervaded the place, and that the children were, in an indescribable way, set free. Yet there was order in everything. With a straightforwardness often stripped entirely of words, Maria Montessori taught, or to use her own word, "directed," her children. She treated the children not as automatons, but as individual human beings. She never forced her personality or her will upon them, and made none of the efforts to attract and interest, which I had often made use of.[49]

George was so impressed with Montessori and her method that she returned to Rome in 1910 and enrolled in an eight-month training program. She was the first American to be trained in the method by Montessori herself. Returning to the United States, George conducted the first Montessori school in the country, which had been established in Tarrytown, New York, by Frank A. Vanderlip. Claiming that the Montessori method required no adaptation for American children since it was applicable to children universally, George sought to implement the method "precisely" as Montessori had developed it.[50] However, she did note some differences between the American children and the Italian. The American children in the Tarrytown school were predominately middle class while the Italian children she had observed were working class. After learning how to use the didactic materials correctly, the American children tended to experiment and find new ways to use them. Further, the American children, more used to seeing writing used in their homes, were not as enthusiastic as the Italian children were about learning to write.

George defended the Montessori method against the charge that it failed to develop children's imagination (a charge frequently made against it by kindergarten educators). She wrote,

> The Italian educator, it is said, makes the mistake of bringing the children too closely to the earth, as distinguished from other methods which encourage imagination and deal in fairies and knights and imaginative games. Dr. Montessori makes the children see the world as it really is. To her a block is a block, not a castle; the hands and fingers are anatomical structures, not pigeons; the children learn real geometrical forms by their right names—triangles, squares, circles, ovals—and not as symbolic abstractions.[51]

In 1913, George placed her assistant, Miss Bagnell, in charge of the Tarrytown Montessori school and then established a Montessori school of her own, the "Children's House," in Washington, D.C. She sought to make this school an accurate reproduction of Montessori's schools in Rome so that the method would be a "pure application of Dr. Montessori's principles."[52] George was so recognized in the American Montessori movement that she did the English-language translation for *The Montessori Method* published by the New York company of Frederick A. Stokes in 1912. She would also translate Montessori's lectures when the Italian educator made her first visit to the United States, in 1913.

Montessori's leading promoter in the United States was Samuel S. McClure, the publisher and editor. McClure, an enthusiastic and opportunistic promoter of the Montessorian method, saw himself as the leader of the movement in the United States. He hoped not only to make a contribution to American education by his promotion of Montessorianism but also to make a fi-

nancial profit by publicizing Montessori and sharing in the sale of Montessori publications and apparatus.

McClure's Magazine ran a series of laudatory articles on Montessori and her method; for a time, the magazine featured a monthly section entitled the Montessori Department. Touting Montessori as an "educational wonder worker," McClure proclaimed that the development of the Montessori method marked "an epoch in the history of education and a turning point in the lives of all who take part in it."[53] Ellen Yale Stevens, principal of the Brooklyn Heights Seminary, praised McClure's efforts in bringing Montessori to an American audience:

> For the first time, I believe, in the history of educational thought, a new movement has come to the front through the medium of a popular magazine instead of by means of a scientific treatise by a specialist in education, which would naturally have limited appeal. The result of this is that the interest of the whole country has been aroused, not only in the work of Dr. Montessori in Italy, but in the present state of education in this country.[54]

In November 1913, McClure was in Rome to arrange Montessori's projected speaking tour in the United States. The ambitious publicist sought exclusive rights to market Montessori's method and materials in the United States. He wrote to his wife about some motion pictures of Montessori classes that he planned to use in his own lectures, calling them "sublime and wonderful material." McClure found Montessori's book *The Montessori Method* to be "really extraordinarily eloquent & luminous."[55] While in Italy, McClure developed the plan for the lectures Montessori would deliver in the United States. First, he would describe the history and spirit of the Montessori system and his own visit to the Casa dei Bambini. Second, he would show and comment on the motion pictures of the school. Third, McClure would then introduce Montessori, who would speak for thirty minutes in Italian. This would be followed by Ann George's translation of Montessori's lecture.[56] The format was changed during Montessori's American lecture tour. Montessori was welcomed by a leading local educator, such as John Dewey in New York or Ella Flagg Young in Chicago, and then introduced by McClure; she would deliver her lecture in Italian and Anne E. George would translate her remarks. The presentation concluded with the showing of the motion pictures of children engaged in activities at Montessori's school in Rome. When preparing his plan, McClure apparently was also looking ahead to a later lecture tour that he would make to promote the sale of Montessori apparatus.

With boundless enthusiasm, McClure developed an ambitious plan to bring Montessori to the American public. His plan included a joint lecture tour with Montessori, establishing Montessori schools, creating a teacher

education institute, and founding a company to manufacture and market her didactic materials.[57] He believed that he had successfully negotiated with Montessori and had gained the right to control her lecture and the films. Throughout his dealing with Montessori, however, there were tensions and serious misunderstandings. Montessori, determined to control the method and materials she had designed, distrusted McClure. McClure, in turn, found her a difficult and obstinate person to work with.[58]

The American Montessori Association sponsored a nationwide lecture series by Montessori in December 1913. As indicated, McClure had arranged the tour. Montessori arrived in the United States on December 3 and began her tour with an inaugural address in Washington, D.C., which was followed by lectures in New York, Philadelphia, Boston, Chicago, and San Francisco. John Dewey, the pragmatist philosopher, was chairperson of her first lecture, in New York City. Ella Flagg Young, superintendent of Chicago Public Schools, and Jane Addams of Hull House, gave official welcomes at the two Chicago lectures. Since Montessori did not speak English, her lectures were delivered in Italian and then translated into English by Anne E. George. George's translations accentuated the following points: Montessori's emphasis on the child's liberty, both externally (as the freedom of movement) and internally (as the freedom of the spirit); the child's own aim to grow to independence and maturity; the child's need to explore the environment, to feel and touch things, and to organize his or her own movements; how didactic materials were used to develop sensory skills and the skills of practical life; the spontaneous development of reading and writing; a sense of discipline that comes from work—that is, staying on a task until it is mastered.[59]

Montessori's lectures attracted large audiences and received wide and favorable newspaper coverage. They were regarded as highly successful and as a prelude to a concerted Montessorian presence in American education. Montessori departed for Italy on December 24. Henry Suzzallo, professor of philosophy of education, Teachers College, Columbia University, recognized the impact that Montessori had made. He wrote,

> Among a considerable number of laymen and a smaller number of teachers, the interest amounts to enthusiasm. The doctrines of the Italian educator are so warmly espoused by some that schools modeled on the plan of the Casa dei Bambini have been established in various parts of the country, where they rival and challenge the existing kindergartens and primary schools. To many of its adherents this movement constitutes an educational revolution that in time will completely change the education of children.[60]

Though recognizing the great enthusiasm generated by Montessori, Suzzallo was suspicious about some of the pedagogical features of the Montessori

established part of many American public school systems. The kindergarten itself was no longer an experimental institution but was now part of the educational establishment. Kindergarten teachers met in annual conventions, and Froebel's writings had been translated into English and published in the United States. Since the kindergarten and the Montessori method were intended for essentially the same age group, comparisons and contrasts were often made between the two methods. In introducing an article on the Montessori method and the Froebelian kindergarten, the editor of McClure's Magazine wrote, "Since the beginning of the Montessori movement in this country, the kindergarten method and the Montessori method have been issues in a great controversy which has stirred the whole educational world. The two methods have been constantly compared and contrasted, and each one has been criticized from the point of the other."[68]

Both Froebel and Montessori believed that children possessed an interior spiritual force that stimulated their self-activity. They also believed in the importance of a prepared educational environment. For Froebel, this was the kindergarten, the "child's garden"; for Montessori, it was the prepared environment of the Casa dei Bambini. Montessori made some distinctions between her method and the Froebelian kindergarten. Learning, which she called auto-education, was not to be wasted in chaotic activity for the sake of movement. It was a force to be used in conjunction with the child's stages of development—to further motor, intellectual, and social growth and to cultivate well-being in a prepared environment.

Montessori concluded that some of Froebel's "gifts and occupations"—the materials and activities used in kindergartens—were not compatible with children's readiness. For example, she believed that the Froebelian exercises of weaving and sewing on cardboard were ill adapted to the physiological development of the children's eyes and their ability to coordinate eye and hand movements. She did, however, retain clay modeling, which she found to be the most rational of Froebel's exercises.[69]

More generally, Montessori believed that there were important differences between her didactic materials and Froebel's gifts. Froebel's gifts were objects in their finished form that were given to the children, such as the sphere represented by the ball. The ideal underlying the Froebelian gifts was that the concrete object would stimulate the recall of the concept, such as sphericity, that was latently present in the child's mind.[70] Further, the sphere, according to Froebel's idealist philosophy, had a powerful symbolic significance in that the circle united all people into a great chain of humanity and that the earth itself was a sphere. Montessori rejected much of the Froebelian symbolism as being based on unscientific metaphysics. She further claimed that her didactic materials were self-correcting whereas the kindergarten teacher had to intervene

with the Froebelian objects to make sure the children were using them correctly. In using the Montessori materials, the apparatus itself corrected the child, who would repeat the task until it was mastered.[71]

During the effort to introduce and publicize the Montessori method, several of Montessori's American proponents argued that the two methods could complement, rather than supplement, each other. In his introduction to *The Montessori Method*, Henry W. Holmes, professor of education at Harvard University, predicted that the early childhood education of the future would combine both Froebelian and Montessorian elements.[72]

Generally lauding the Montessori method, Holmes devoted much of his introduction to comparing and contrasting the Montessori and Froebel methods. Holmes noted that the kindergarten teacher relies heavily on group work while the Montessori directress stresses individual work. Montessori's sensory training is much more specific than that of Froebel's kindergarten approach. Although both methods feature free body activity and rhythmic exercises, the kindergarten uses imaginative group games while the Montessori method stresses specific individual exercises to develop physical skills and functions. While the kindergarten's group games are highly imaginative and symbolic, the Montessori school's activities are directed to performing the work of real life.[73] Holmes concluded,

> Compared with the kindergarten, then, the Montessori system presents these main points of interest: it carries out far more radically the principles of unrestricted liberty; its materials are intended for the direct and formal training of the senses; it includes apparatus designed to aid in the purely physical development of the children; its social training is carried out mainly by means of present and actual social activities; and it affords direct preparation for the school arts.[74]

Ellen Yates Stevens, principal of the Brooklyn Heights Seminary, undertook a comparative investigation of the kindergarten method and the Montessori method. Specifically, she used the following questions to guide her research: Has the Montessori method successfully "broken down the wall between the kindergarten and primary classes"? Is the Montessori approach to early child education "better than that of Froebel, and if so why"?[75] To answer these questions, Stevens went to Italy, where she interviewed Montessori and spent seven weeks visiting Montessori schools and comparing them to Italian kindergartens that used the Froebelian method. The results of her research were then published in *McClure's Magazine*.

Stevens gave the Montessori method her unreserved approval. Calling Montessori "a genius," Steven acclaimed *The Montessori Method* as "one of the most impressive and illuminating books I have ever read." In comparison with Froebelian kindergarten, she found the Montessori method to be "more

direct," avoiding Froebel's symbolism. The Montessori material was "more practical." Most important, Montessori had solved the problem of matching children's readiness with appropriate learning materials and activities, by individualizing their work. Stevens noted Montessori's highly significant achievement, stating that the children's "individual development was possible to a much greater degree" because the Montessori method provides for "the varying rates of progress always found among children of the same age."[76]

Believing that the Montessori method should be applied to American children, Stevens noted some differences between Italian and American children that needed to be recognized in adapting the method in the United States. Compared to the Italian child, the American child was "less responsive to sense impressions" and "less docile" but had "more imagination," "more power of invention," and a "greater fund of nervous energy." She commented that

> our children love the mysterious, the unreal, the myth, the fairy story; and this need should be provided for by the story, the song, and the game. I expect our children to be freer with the material—to take some of the steps more quickly and omit others altogether.[77]

Like Professor Holmes, Stevens looked forward to a combination of selected elements of the Froebelian kindergarten with the Montessori method. She proposed that the American kindergarten and primary grades be reconstructed according to Montessori's philosophy and method, "using her materials, but keeping the kindergarten's morning circle and the story, many of the songs and games, and some of the occupations, especially the clay."[78]

While there was some fusion of Froebelianism and Montessorianism, the two methods remained distinct. Rather than being absorbed or changed by Montessori, the American kindergarten slowly reconstructed the Froebelian method, making it less symbolic and more informal. This change in kindergarten practices was more influenced by child-centered progressivism rather than Montessori's method. Elizabeth Harrison, a well-known authority on kindergarten education, gave the generalized kindergartner response to the Montessori method. Despite some positive features, Harrison said that it overemphasized individual work to the detriment of group work and that it failed to cultivate children's imaginative, dramatic, and poetic activities.[79]

In addition to the reservations made by traditional kindergarten educators about the Montessori method, an important group of opponents included some university professors of education, many of whom were progressives associated with John Dewey's instrumentalist philosophy. The progressive educators were gaining prominence in the United States and were beginning to dominate teacher education programs in colleges and universities. For a time, Montessori's method had been considered to be compatible with and

perhaps a European variation of progressive education. Some leading progressive educators were now determined to show that Montessorianism was not a genuine progressive method of education. In a strong attack, Walter Halsey, a professor at the University of Omaha, labeled the Montessori method as a mere "fad promoted and advertised by a shrewd commercial spirit" that was being enthusiastically accepted by the "novelty loving American public."[80]

A serious and highly critical attack came from William Heard Kilpatrick, a prominent professor at Columbia University's Teachers College. A disciple of Dewey's pragmatic instrumentalist philosophy, Kilpatrick sought to devise ways to implement Dewey's concepts of social intelligence and problem solving into the school curriculum. Kilpatrick's efforts led him to develop the group-centered, activity-based project method, which became a highly popular method of instruction in American schools in the 1920s and 1930s.[81]

Before writing his critique of Montessori's method, Kilpatrick had gone to Rome to visit Montessori schools and to interview Montessori. He then turned to a detailed analysis of Montessori's *The Montessori Method.* Representing the instrumentalist–progressive response to Montessori, Kilpatrick's critical book *The Montessori System Examined*, published in 1914, called the Montessori method a mid-nineteenth-century piece that was "fifty years behind" modern educational thought.[82]

Kilpatrick, operating from an experimentalist–progressive frame of reference, wrote a detailed analysis of the Montessori method. While commending Montessori's interest in science and in the application of science to education, Kilpatrick found many of her generalizations to be unscientific claims that were based on limited observations and on a very restricted knowledge of recent developments in educational psychology.[83] Further, Kilpatrick claimed that Montessori, in the tradition of Rousseau, Pestalozzi, and Froebel, believed that children's development was an unfolding of latently present interior potentialities. Her view of inner development caused her to neglect the importance, emphasized by Dewey and the experimentalists, of education as a series of transactions between the child and the environment that resulted in intelligent adaptations to changing circumstances.[84] Kilpatrick, referring to Dewey, challenged Montessori on not providing or encouraging the group work that is needed for social intelligence and that arises from children's own needs for joint action to deal with a situation or to solve a problem.[85]

Kilpatrick was indeed critical of the didactic apparatus and materials that were prominently featured aspects of the Montessori method. While approving of Montessori's emphasis on the child's freedom to perform a self-selected task, he found that Montessori's didactic apparatus and materials

presented "a limited series of exactly distinct and very precise activities, formal in character and very remote from social interests and connections. So narrow and limited a range of activity cannot go far in satisfying the normal child."[86] The consequence, according to Kilpatrick, was that the Montessori schools did not provide adequately for stimulating children's imagination and creativity. Neither did Kilpatrick find much to praise about the exercises of practical life. He found the claims of children's practical abilities and skills in Montessori schools to be exaggerated. Rather than being generic activities, Kilpatrick, in true progressive fashion, argued that the practical life activities should reflect the conditions and situations in local communities in which the school was located.[87]

Proceeding to deflate Montessori as an educational innovator, Kilpatrick put her outside the current research in educational psychology. Based on his interview with her, Kilpatrick concluded that Montessori accepted the largely discarded doctrine of formal discipline. Her approach to sensory education rested on a belief that the mind's powers could be specifically trained.[88]

Kilpatrick's stinging critique had a significant negative impact on the entry of the Montessori method into the teacher preparation programs in colleges and universities. Although a number of teachers, journalists, and lay people were receptive to Montessori, she made only a slight impact on the educational establishment—the public schools and the colleges of education—in early-twentieth-century America. Educational administrators were more concerned with designing facilities and schedules for large urban systems. John Dewey, William H. Kilpatrick, and other progressives were dominating the educational scene.

The first entry of Montessori education in the United States was marked by some short-term successes, but it also revealed serious weaknesses that would jeopardize its long-term success. Montessori's name and method had reached an American audience. She enjoyed the support of some prominent and influential persons; however, they were mainly journalists and public figures, people not well positioned in the educational and academic communities.

Montessori's scientific pedagogy failed to make a significant impact on educational psychology, as it was conceived of in departments and schools of education in the United States from 1910 to 1930. The functional, behavioral, and psychoanalytic schools of psychology, then dominant, overshadowed Montessori's ideas on educational psychology.[89] According to J. M. Hunt, Montessori's recommended pedagogical treatment for mental retardation was "out of step" with J. McKeen Cattell's doctrine of fixed intelligence and with Edward L. Thorndike's stimulus-response theory.[90] Montessori's contention that intellectual development could be deliberately stimulated in early childhood life and her emphasis on the transfer of training were not generally accepted by the

In 1922, Benito Mussolini and his Fascists marched on Rome and established a Fascist regime in Italy. Mussolini's intense Italian nationalism drew the support of some leading Italian intellectuals, such as the idealist philosopher Giovanni Gentile (1875–1944).[95] In Gentile's interpretation of idealism, the overarching idea of the nation-state embraced and surmounted all the individuals within it. His emphasis on the paramount role of the nation-state attracted him to Mussolini's Fascist ideology, which glorified and exalted the total state as the sum of all human loyalties. In 1923, Mussolini appointed Gentile minister of education. As president of the Supreme Council of Public Education from 1926 to 1928, he influenced the direction of education in Fascist Italy. Gentile's emphasis on children's self-education, or auto-education, caused him to look favorably on the Montessori method. Gentile, along with Queen Margherita, was interested in promoting the Montessori method in Italy.

Through the auspices of Gentile, Mussolini and Montessori met in 1924, and the duce expressed an interest and commitment in establishing Montessori schools. It is assumed that Mussolini was interested in a method that he believed instilled discipline and order and in which children learned to read and write at age four. He also wanted to use Montessori's name and her associations and societies in other countries to popularize his Fascist ideology. Montessori, in turn, was receptive to receiving official support for her educational ideas. In 1926, Montessori was officially recognized by the Tessera Fascista, the Fascist women's organization, and was made an honorary member of the party.[96] The Ministry of Education officially appointed Montessori to conduct a six-month training course for Italian teachers in Milan. Mussolini accepted the honorary presidency of the course and authorized a subsidy for its support. In March 1927, Montessori and Mussolini met again in a private audience. There was more cooperation between Montessori and the Fascist government. The government advised the mayor of Rome to establish a Montessori training school. The government also supported a monthly publication, *L'Idea Montessori*. By 1929, the Italian government was sponsoring several Montessori enterprises, such as a training college in Rome (the Regia Scuola Magistrale di Metodo Montessori), a Montessori training course in Milan, and seventy infant and elementary classes in schools throughout Italy.[97]

The years 1929–1930 marked the high point of Montessori's educational work in Italy with the support of Mussolini's Fascist state. There was a six-month international training course in Rome in 1930 under the auspices of the Opera Montessori. Mussolini accepted the presidency of the fifteenth International Theoretical and Practical Training Course on Child Education, with Gentile as acting president. Mussolini intended to use the international Montessori course to showcase modern Italian culture and education.[98] However, Mussolini, like McClure, had not counted on meeting the firm resolve

of Maria Montessori and her determination to control her own method of education and keep it as she had designed it.

In 1929, Montessori and her son, Mario, established the Association Montessori Internationale (AMI) to control and supervise Montessori activities, including training programs, throughout the world. Montessori sought to unite all the Montessori movements throughout the world in a single international organization. At first the AMI met in a concurrent conference with the New Education Fellowship, an organization of progressive and innovative educators. After 1933, it met as a completely independent organization in the annual Montessori Congresses. Montessori was appointed lifetime president of the AMI, which was headquartered in Berlin until 1935 and then in Amsterdam. The AMI controlled rights to the publication of Montessori's books and the manufacture and sale of the materials and training course fees. Mario became her agent, protector, and representative. Both she and Mario insisted that there be no deviation from the approved pedagogical line that Montessori had instituted.[99]

Mussolini, whose slogan was "Everything in the State, nothing against the State, nothing outside the State" and who was growing steadily more totalitarian, was crushing opposition and coercing those suspected of dissent. He was determined to instill the Fascist ideology throughout Italy, including its schools and youth organizations.[100] Bent on instilling Fascism in Italy's children and youth, he established a number of Fascist children's and youth organizations. The Balilla was established for boys from eight to fourteen, and the Avanguardisti, for youth from fourteen to eighteen. Girls were enlisted in the Piccole Italiane. Dressed in uniforms, like the national Fascist militia, the children drilled and paraded through the streets of Italy's cities and villages. The Fascist regime was also tightening its control of Italy's schools, with all teachers required to take a loyalty oath.[101]

Cooperation between Mussolini's Fascist government and Montessori was always uneasy. Mussolini wanted to make political capital out of Montessori. Montessori, however, did not accept the Fascist ideology and viewed her role to be that of an international educator rather than a promoter of Italian nationalism. In fact, she believed that the child's nature and stages of development were universal and not determined by national, racial, or ethnic origins. In 1934, the Italian government, seeking to capture publicity, wanted to name Montessori as Italy's children's ambassador. Montessori refused to accept the appointment unless the Italian government recognized her as the sole authority of the AMI. The Fascist government responded to Montessori's intransigence by closing the Montessori schools and suppressing the movement.[102] Maria Montessori left Italy as an exile.

Montessori's brief involvement in Italy with Mussolini's Fascist regime shows her reluctance to become enmeshed in politics. Although she was an

economically and socially concerned educator who made connections between education and society, she was not politically attuned to, nor actively involved in politics, as were Jane Addams and John Dewey. Montessori did have some influential politically connected supporters throughout her career, but she placed her method of education above politics and above nationality.

In discussing Montessori and politics, her own leadership style can be examined as internal and external to her educational movement. Her view of internal politics seems to be that of leader and disciple. She was the leader, always in firm in control of the Montessori method and movement. For example, only she could train and officially certify approved Montessori directresses. Only she could approve the manufacture of official didactic materials. Those who joined her cause had to accept her style of leadership and the supervision that came with it. For her, leading an educational movement did not mean being a negotiator involved with transactions among her followers.

In terms of external politics, she accepted official government financial support for her training centers and schools but would not accept government control or interference. While she took official government support, she would not lend her name, nor her method, to political party politics or ideologies. In Barcelona, she was supported by the municipal government and the Catalon regional government but stayed aloof from the politics of regional autonomy and separatism. In the Vienna of the 1920s, socialists operated the leading Montessori school, but Montessori did not espouse socialism. In Italy, she accepted Fascist support, met with Mussolini, and received official recognition from the regime; but she did not accept Fascist ideology, and she rejected political control. While Jane Addams served on the Chicago Board of Education and organized her ward politically and while John Dewey was closely identified with progressivism and liberalism, Montessori was not directly involved in partisan political activities. The Montessori movement and method were not tied to a particular ideological or political persuasion. When she did get involved in political conflict, as in Italy in 1934, it was when she believed political authorities such as the Italian Fascists were interfering in the application of her method. She believed her method transcended and was above politics.

Believing that she had developed a truly global method of education, Montessori was an international presence who traveled the world to promote her method of education. She conducted training classes and addressed conferences in Italy, the United States, the Netherlands, Spain, France, the United Kingdom, Ireland, India, and other countries. Living through two world wars, she argued that the true way to peace would come as children were educated in the ways of peace.

For Montessori, children have a nature that is universal, as are the periods of human development. Although cultural contexts have some conditioning

significance, what Montessori claimed was that her discovery of the nature of childhood and her method of early childhood education are universal, not culturally relative or culturally determined. Individuals go through the same process of development everywhere, regardless of place or clime. Thus, the Montessori method is transnational and transcultural. Its application may be conditioned by the cultural context, but it is not dependent on it nor is it determined by it. Although different cultural settings might require slight adaptation, Montessori believed her method could function in any culture because of the universality of human and child nature. She stated,

> There is no sense in talking about differences of procedure for Indian babies, Chinese babies, or European babies; nor for those belonging to different social classes. We can speak of one method; that which follows the natural unfolding of man. All babies have the same psychological needs, and follow the same sequence of events, in attaining to human stature. Every one of us has to pass through the same phases of growth.[103]

In 1936, Montessori, accompanied by her son, Mario, moved her educational activities in the Netherlands, making Amsterdam the headquarters of the Association Montessori Internationale. It was from this location that she continued her worldwide activities, addressing Montessori congresses and conferences, lecturing, and conducting training classes.

In October 1939, Montessori, at age sixty-nine, traveled to India to conduct a training school sponsored by the Theosophical Society at Adyar, in Madras. When Italy, a member of the Axis, invaded France and entered World War II in 1940 on the side of the Germans, Italian nationals in Great Britain and its colonies were interned. Montessori, an Italian national, was not actually interned by the British authorities in India but was confined to the compound of the Theosophical Society. The British easily decided that Montessori posed no security threat, and they released her to carry on her educational activities in India.[104] She was in India during the war years, and as a result many of her books were published by Indian publishers.

When World War II ended, Montessori returned to Europe, arriving on July 30, 1946, in Amsterdam, at the AMI headquarters. She continued to give training courses. In 1947, she returned to Italy, at the invitation of the government, to reestablish the Opera Montessori and help reopen Montessori schools.

In July 1947, Mario, divorced from his first wife, married Ada Pierson, who had cared for his children in the Netherlands during World War II while he was with his mother in India. The aging Montessori delegated many of the administrative responsibilities of the international society to Mario, who was her trusted confidant and aide. Maria Montessori died on May 6, 1952, in

Noorwijk aan Zee, a small village near The Hague, and was buried in the local Catholic cemetery.

Revival of Montessori Education in the United States

In 1925, there were one thousand Montessori schools in the United States. After this peak period, Montessorianism in the United States experienced a sharp decline, and only a few schools continued to operate. Then, in the mid-1950s, the Montessori method enjoyed a significant revival in the United States. Throughout the world, there was a growing interest in early childhood education. In the United States, working parents explored various kinds of play schools, day care, and early childhood agencies. Parents who were seeking a more academically oriented early-childhood school rediscovered Montessori's method as a viable alternative to what was available in many public school kindergartens or progressive private schools. Indeed, by the mid-1950s, progressive education, which had eclipsed the first attempt to introduce the Montessori method in 1914 to 1918, was on the defensive and declining. A major leader in launching the American Montessori revival was Nancy McCormick Rambusch, founder of the Whitby School, in Greenwich, Connecticut. Although deeply committed to Montessori's philosophy of early childhood education, Rambusch believed that the method needed to be modernized to incorporate new developments in education. Those who wanted a more up-to-date Americanized version of Montessorianism organized the American Montessori Society in 1960. By the end of the 1950s, over two hundred Montessori schools and several large training schools were functioning.[105] The AMI, headed by Mario Montessori, was critical of the American version of the method, on the grounds that it had departed from the founder's original ideas and philosophy.

In the second wave of Montessori education in the United States, the demand for Montessori schools exceeded the supply of trained Montessori directresses. As a result, schools and teacher preparation programs proliferated without any one set of accreditation standards. While some schools held closely to Montessori's original method, others were more flexible about making adaptations. The two organizations that provide recognition to Montessori schools are the Association Montessori Internationale (AMI) and the American Montessori Society (AMS). In the 1960s, the Montessori method gained a further impetus during President Lyndon Johnson's "Great Society" initiative in the "war against poverty." Part of the antipoverty legislation was directed toward providing compensatory education programs for poverty-affected children. Some "Operation Head Start" programs, designed to provide early learning experiences for socially and culturally disadvan-

A blending of autobiography, educational philosophy, and teaching methods, Montessori's book was her story. She told of how she had arrived at her theory, how it was implemented in the first Casa dei Bambini, and how her method could be implemented. In addition to its educational significance, Montessori's book was also a commentary on the social and economic changes that were affecting women, children, and families in the early twentieth century.

The Montessori Method can be examined in terms of, first, Montessori's early career as a medical physician, educational theorist, and practitioner; second, the method as educational theory and practice; and, third, its larger historical and contemporary significance.

Montessori as Physician and Educator

Montessori's education in medicine at the University of Rome introduced her to the scientific method and to the importance of clinical observation of patients. These elements would become highly important in her development of the Montessori method. Montessori's grounding in the scientific method caused her to begin her work in education from a base in fields directly related to medicine, such as physiology, anatomy, and pathology. She would later broaden her scientific repertoire to include social sciences, such as psychology and anthropology. It is important to note that Montessori sought to create a scientific pedagogy, a method of education based on science.

In seeking to develop "scientific pedagogy," Montessori devised her method and operated from what she regarded to be the scientific method. It is necessary, however, to analyze the definition of science. Montessori construed science to be a method of discovering truths about education; once these truths had been discovered, they were to be perfected. Science, for her, was not a critical, relativistic method of inquiry, but rather provided a means of finding the truth.

Montessori advised educators that empirically generated scientific findings were a means to an end—an interpretive means—rather than the end itself. Educators were to use science as a mode of investigation and interpretation but were not to become limited by scientific or empirical literalness. For example, she commented that children's measurements were used to design desks to correct curvature of the spine. However, this literalness had the consequence of confining children to scientifically designed but rigid and unmovable desks, which limited their freedom to move.[108]

Drawing upon physical anthropology, Montessori regarded the human being as a biological organism who could be studied quantitatively and scientifically. She was especially interested in applying anthropometry, a subfield of physical anthropology, which stressed the measurement of human physical

characteristics through a variety of apparatus and the detailed recording of these observations. Montessori applied physical anthropology and anthropometry to her work with children. Children were to be periodically measured and weighed, with attention paid to the size and shape of head, face, pelvis, limbs, and any malformations. These findings were carefully recorded in an individualized record, a "biographical chart," to be jointly maintained by the teacher, a pediatrician, and a psychologist; and to be shared with parents. Scientific pedagogy, she advised, required the methodical study of children, informed by pedagogical anthropology and experimental psychology. She advised teachers to "make the anthropological study of the pupil precede his education."[109] However, she warned that the experimental study of children is not the same as their education; it is rather a guide to their education.[110]

Closely allied to her use of the scientific method, as she conceived of it, Montessori used clinical observation. In her medical training, she had learned clinically to observe patients to diagnose illnesses, prescribe treatment, and document recovery. As she turned to educational research, Montessori applied the tool of clinically observing children to find out when and how they learned. In her discussion of education, Montessori's medical training and use of clinical observation were clearly evident. Before discussing sensory education related to sound, for example, she first discussed the anatomy and physiology of the ear. Only then would she turn to educating the sense of hearing.

Montessori's first observations were with mentally impaired children, then labeled as mental defectives. When she had success in training these children to achieve some degree of independence, Montessori then turned her observation to normal children. She concluded that the materials used to train mentally impaired children could be used to educate normal children. More accurately stated, these materials could be used by the children who were actually educating themselves.

From her integration of science and clinical observation, Montessori moved to still larger and broader generalizations about early childhood education and education in general. Montessori saw herself as a pioneer in a new field, "scientific pedagogy," which, like medicine and education, was freeing itself from speculative metaphysical philosophy and becoming a scientific discipline.[111] In early childhood and elementary education, in particular, she had to find sources that were different from the largely philosophically based theories of those regarded as the great European educators—Comenius, Rousseau, Pestalozzi, Froebel, and Herbart.

Montessori's emphasis on clinical observation led her to one of her most important educational principles: the freedom of children to act to achieve their own growth and development. If clinical observation was to be a source of valid findings about children's behavior, it needed to be free from unnec-

essary adult constraints so children could act on their own needs and interests.[112] For Montessori, clinical observation and early childhood education were to be guided by one necessary principle: "the liberty of the pupils in their spontaneous manifestations."[113]

Although she emphasized children's liberty, Montessori did not construe the child's freedom to be a romanticized Rousseauean absent of all controls. It did not mean "doing your own thing." For Montessori, the child's liberty meant the freedom to act within a structured environment. Not an end in itself, a child's freedom was rather a means in child study, which in turn informed the educator about children's behavioral and learning processes. So informed, the educator could use the insights gained to construct a prepared learning environment that provided materials, opportunities, and occasions for children to interact with the environment in an educative way. While Montessori was creating more pedagogical avenues for children to travel through, it needs to be stated that whoever controls the environment in which learning occurs places some limits on that freedom.

The Method as Educational Theory and Practice

As indicated in the previous section, Montessori's method of education was based on her conception of science, on her observations of children, and on her extensive research in anthropology, psychology, and pedagogy. From research and experience, she arrived at a series of "discoveries," or assumptions, about children's growth, development, and education. To examine her method, we begin with Montessori's concept of the nature of the child as a learner.

Nature of the Child as a Learner

Though regarding her method as "scientific pedagogy," Montessori's concept of child nature was spiritual, indeed almost metaphysical. She claimed each child, at birth, possesses a psychic power, an inner self-teacher that stimulates learning. Children innately possess the interior power to absorb and assimilate many elements of a complex culture without direct instruction.[114] Despite reaching into the spiritual to describe her concept of children's nature, Montessori sought to move away from abstract philosophical generalizations to the use of the scientific method to discover the patterns of children's development. By so doing, she could structure an educative environment and a set of instructional processes that fully accentuated the patterns of human growth and development.

For Montessori, the educative process embraced two key and necessary elements: the individual child and the environment. The primary element is the

individual child's physiological and mental constitution, which gives her or him the power to act. As a real biological entity, the living child has a body, a physiological structure that grows and develops; however, each child also has a spiritual soul, a psychic form that manifests itself. The environment, the secondary element, provides the necessary milieu in which the human being develops. While the environment the child inhabits can modify development, it can never create a human being's primary physical and mental constitution. The child's education requires an environment in which he or she can develop the powers given by nature. Education then is a process of collaboration with the child's nature and stages of development.[115]

Through their interaction and involvement with the environment, children adapt to objects and situations encountered in the environment. Children's physiological and psychic powers move them to free activity in exploring the environment. These interactions and the information that they bring with them are then incorporated into the child's developing self, experience, and conceptual network.[116] It is imperative that children be free to act on their environment. Their free activity discloses the cues of child development to the educator, leading to the discoveries that make it possible to design a method of instruction.[117]

Unlike conventional educators who believed that children needed to have their interests shaped for them, Montessori contended that children naturally possessed a strong propensity and capacity for mental concentration. The key to exercising this self-activity came, however, from sources internal rather than external to the child. If they were truly interested in their activity, children would concentrate their attention and energy on it. They would stay with and continue to act on it until they had mastered the task.

Like her educational predecessors Rousseau, Pestalozzi, and Froebel, Montessori rejected the concept that children were innately disorderly and needed to have their willfulness curbed through strong external discipline. She firmly rejected the notion that children had to be prodded to learn by rewards and punishments. Montessori found that, rather than being disorderly, children actually desired order and strongly preferred to be in a structured environment. Montessori believed that, rather than diminish freedom, structure actually enhanced the child's freedom. In a structured learning environment, the ideas of place and space and expectations were clearly known by the children. Furniture and other items in their school space were made for them and accommodated to their size, rather than be imposed on them. If didactic apparatus and materials were in an accessible place, a child would make certain that their placement remained accessible by replacing them in their proper space in an orderly fashion.

Further, children were eager to master new skills. On their own initiative, they would keep at the task and continue to repeat it until they had mastered

it. Children realized that the mastery of practical skills, such as tying a shoelace, buttoning a jacket, and putting on gloves and overshoes, without the help of an adult gave them freedom and independence. Montessori concluded that children did not have to be forced to learn and, if permitted to choose between work and play, would often choose the former. In such a learning climate, artificial rewards and punishments were not only unneeded but could distort the learning experience.

Montessori shared with Froebel a conviction that, while learning, children were unfolding, or externalizing, their true personality and humanness. However, the child's early years were of such crucial importance in setting the proper course for later learning that they should not be left to chance. As Froebel created his kindergarten, Montessori devised her school, a prepared environment for children's early learning, growth, and development.

At first glance, there appears to be a similarity between (a) the American progressives' emphasis on the freedom of the child and their basing education on the children's interests and needs and (b) Montessori's concept of the liberty of the child and respect for the spontaneity of children's actions. It may have been this appeared similarity that attracted some progressives to Montessori during the first wave of Montessorianism in the United States. However, the progressive view of the child, especially that of Dewey and the experimentalists, was quite different. Montessori defined children's nature as a combination of physiological and psychic powers and development. Her environment is a carefully prepared one in which the child is free to act within a structured setting. Montessori's structured environment is quite different from the progressive's open-ended environment. Dewey commented that the Montessori techniques "are so anxious to get at intellectual distinctions" that they ignore the "crude handling of familiar material" and that they introduce children to "material that expresses the intellectual distinctions" made by adults. He preferred the "trial and error" learning that results from the child's interaction with the material at hand.[118]

The Educational Process

Montessori defined education as a dynamic process in which children develop according to the "inner dictates" of their life, by their "voluntary work" when placed in an environment prepared to give them freedom of self-expression.[119] Children, she claimed, are naturally and energetically striving to achieve functional independence. An innate drive, which Montessori called a "divine urge," stimulates the child to self-activity to perform actions that promote growth, which leads to further development and greater independence.[120] For children, independence means being free to do the things that

environmental explorations, absorbed information, constructed their concepts about reality, began to use language, and entered into the larger world of their group's culture. During the second period, roughly coinciding with childhood, from age six to twelve, the skills and powers that had surfaced and were being developed in the first period were further exercised, reinforced, polished, and expanded. The third period, from age twelve to eighteen, coinciding with adolescence, was a time of great physical change, with the person's striving to reach full maturity. The third period was subdivided into two subphases, ages twelve to fifteen and fifteen to eighteen.[125] During the third period, the adolescent sought to understand social and economic roles and to find her or his place in society.

Although she developed an educational regimen for each of the three major developmental planes, her book *The Montessori Method* focused on the "sensitive periods," which were included in the period of the "absorbent mind." Montessori's use of the term "absorbent" reflected her belief that children in this stage were engaged primarily in absorbing sensory impressions and information from their environment. The impulse for this absorption was driven by the child's interior impulse to acquire this knowledge for self-development and for eventual independence. Since the content of the knowledge so absorbed depended heavily upon the learning possibilities found in the child's environment, it was very important to prepare or to structure the environment so that it contained the greatest possibilities for appropriate exploration and absorption. As they explored the environment, the information that children absorbed was clustered in the mind, around points of sensitivity. These points of sensitivity dealt with powers such as judging distances, making comparison, and developing language. These points of sensitivity stimulated children to identify a task, a particular kind of work, and to perform a certain series of actions with a sufficient duration to lead to its mastery. Thus, a connection was made between the sensitive point in the mind and the action being performed.[126]

The period of the "absorbent mind" was divided into an early phase, from age one to three, when the child's mind functions unconsciously and learning results from interacting with and responding to environmental stimuli. During this key period, children begin to construct their own personality and intelligence through their environmental explorations and the sensations they experience during these encounters. The children begin to acquire the language and culture into which they are born. During the later phase, from age three to six, the child is more conscious of and directive of his or her environmental explorations. Montessori characterized this second phase of the "absorbent mind" as a time of "constructive perfectionment," during which the child, through his or her own self-activity, deals consciously and deliber-

ately with the environment. Montessori's use of the term "constructive" may sound similar to the current constructionist approach to curriculum in which children construct, or create, their own knowledge and their own concept of reality through interaction with the environment. For Montessori, however, children's interactions were not random activities but were the work necessary for independence.[127]

During the second phase of the "absorbent mind," from age three to six, the child needs to find the tasks or activities that stimulates her or his interest and needs to learn how to correctly perform the action to do it. The "perfectionment" aspect comes from the desire and need to do and accomplish tasks—the child's work—with a sense of precision. Children are especially attracted to manipulative tasks, with how to do things, which satisfies their need to coordinate and control their movements.

The child, involved in a piece of work, will repeat the same series of movements over and over until it is mastered. This repetition, Montessori asserted, was the means of establishing in his or her nervous system a new system of control that related mind and body, bringing about muscle coordination with the mental goal of completing the task. The repetitions fix the power of knowing that something is being done correctly, which in turn leads to the empowerment that leads to independent performance.

The period of the "absorbent mind," especially its second phase, from age three to six, is highly significant for later development and education. The repertoire of skills and the world that the child constructs lay the foundation for future learning. Indeed, the child's ways of moving and doing will become fixed for the rest of her or his life.[128]

The period of the "absorbent mind" is not only crucial for motor, skill, and cognitive development but also for establishing patterns for socialization and acculturation. Montessori believed that children, during early childhood, absorb the distinctive linguistic and cultural patterns of their cultural group. As they absorb their group's language by hearing it spoken, they simultaneously absorb its values, customs, morals, and religion. Language acquisition involves absorbing a pattern of speech. A pattern is a stable and precise framework in which the various pieces of language and culture are ordered into a whole. The patterns of language and the culture it conveys become part of the child's being. These cultural patterns, according to Montessori, represent the summarized part, the collective memory that is repeated in the habitual life—the traditions and customs—of a particular people. As an individual grows and matures, he or she will continue to develop and to make cultural and social adaptations and revisions to the patterns acquired in early childhood. However, any changes will take place in the network of cultural patterns already absorbed during early childhood.[129]

Progressive educators such as Kilpatrick, who followed John Dewey's experimentalist philosophy of education, criticized the Montessori method as lacking sufficient opportunities for children's socialization. While Dewey emphasized the child's participation and interaction with the group as giving rise to social intelligence, Montessori's view of socialization focused more on absorbing the existing culture and creating mental patterns based on that absorption. For both Dewey and Montessori, socialization came as a result of children's interaction with their environment, which contained a network of sociocultural relationships. The difference was that Dewey saw the child creating his or her own social relationships as a result of human association, or group-centered experience. For Montessori, the child's interaction with environment conveyed an existing cultural pattern to the child that might be altered in the future.

The Montessori Curriculum

The curriculum that Montessori emphasized in *The Montessori Method* was that during the period of the absorbent mind, the first six years of life. Her curriculum design was shaped by several sources: her view of scientific pedagogy, the influence of Itard and Seguin, her work with mentally defective children, and her application of her ideas to the general education of normal children. Montessori believed that the curriculum should be based on a true science of education, which involved information from the medical sciences and anthropology and the clinical observation of children. Her research into the education of children with special needs—physical, mental, and psychological—led her to the work of the French physicians Itard and Seguin. She adapted and reformulated their ideas, especially the materials developed by Seguin, to the education of children with special needs. The highly significant ideal that caused her to generalize her ideas into general education was that the materials used to train children with handicaps could be applied to normal children. Most important, however, normal children could use these materials in their own self-motivated and self-directed "auto-education." For the normal child, the didactic material controls every error, and the child works to correct his or her errors until the task is done correctly.

During the various stages of her work that led to the publication of *The Montessori Method*, Montessori devised her basic curriculum. As discussed, to be used appropriately and effectively, the curriculum needed to be situated in a prepared structured environment. The children, within this environment, were to be free to explore it and select the materials upon which they would work. Within the prepared environment, the materials and activities of the

curriculum were those that related to practical life skills; sensory education; language and mathematics; and more general physical, social, and cultural development.

Practical Life Skills

An important aim of the Montessori philosophy is that children are to have the freedom they need for their own self-development. To be free means that one has the power, the skill, to do what is necessary to live. For children, this freedom meant that they would gain the knowledge and skill, based on their particular readiness and stage of development, to perform the tasks of practical life. The practical life skills include a range of activities designed to develop the child's independence and self-reliance. The activities include those tasks that are part of living as a member of a family in a home (setting the table, serving food, doing dishes, cleaning up after a meal); those required for personal cleanliness and hygiene (washing the face and hands, brushing teeth); and those needed to dress oneself (buttoning smocks and lacing and tying shoes). Special didactic apparatus—lacing and tying frames—gave children an opportunity to practice a particular skill. Included in the practical life skills were muscular exercises related to physiological development, such as motor coordination, walking, and respiratory skills. By repetitive trials, they learned to stay with a particular skill until they had mastered it. Through the practical life activities, the children develop muscular coordination and learn to persevere in mastering a task.

Sensory Skills

The sensory materials and activities are designed to develop the child's sensory acuity and ability. By using specially designed apparatus and materials, children learn to order, classify, and compare sensory impressions by touching, seeing, smelling, tasting, listening, and feeling the physical properties of the objects in the environment. Sensory skills include those related to sound and the ability to distinguish between tones; those related to sight and the ability to recognize and distinguish color, hue, and shading; and those related to touch and the ability to feel texture, softness, hardness, cold, and warmth. Again specialized didactic apparatus and materials were used, such as cylinders, tone bells, stacking blocks, materials of various colors, and so on. Montessori's sensory education activities had three projected outcomes: first, improve children's sensory abilities by exercising their powers of discrimination; second, improve children's general sensory functions; third, develop children's readiness to perform more complicated activities.[130]

Language Skills

Montessori believed that language, as an instrument of human collective thought, was the human power that transformed the raw environment into civilization. While all humans possessed the general power to absorb and acquire language, a particular language was the key element in defining and making a particular human group distinct. As with other elements in the environment, children absorb language.[131]

Language development, which Montessori distinguished from language teaching, is a spontaneous creation of the child. Regardless of the particular language used in the child's culture, language development follows the same patterns for all children. All children pass through a period in which they can only pronounce syllables, then whole words, and then they begin to use syntax and grammar.[132] Language learning came from work with sounds and letters. Letters were cut out and mounted on sandpaper outlines that the children could trace and pronounce phonetically. The children composed words by using the letters of a movable alphabet. Montessori claimed that children burst spontaneously into writing and reading.

Arithmetic was taught by the manipulation of geometrically shaped objects, by using rods of various lengths and by organizing quantities of objects in counting boxes. As in learning the letters, children traced sandpaper-covered numbers.

Physical, Social, and Cultural Skills

More general physical, social, and cultural skills were acquired through individualized physical activities, through shared responsibilities in carrying for plants and animals, and through the creating of a generalized respect for one's own work and for the work of others. Again, children themselves developed an awareness of the larger world in which they lived. As they give order to the sensory information that they have absorbed, they grow increasingly aware that they need more knowledge about the larger world in which they live.

Value Formation and Character Education

Although she recognized that discussions of moral education generated controversy, Montessori believed that an almost universal consensus existed on what constitutes good character. Her assumption rested on her commitment to universal values. Deep within human nature, she stated, there was power, a tendency that moved people to seek the higher spiritual values. This power,

and freedom of other children. Rewards and punishments are unnecessary. Rather than being teacher managed, the children in the Montessori school are self-managed and self-disciplined. Children, working in freedom and being absorbed in completing and mastering self-selected tasks, create their own self-discipline.[136] It is this self-discipline and self-control that leads to positive character development.

Montessori viewed self-discipline as a path that leads to continuing and ongoing character formation. On the path to discipline, the child has a "mental grasp" of the idea that begins the repetition—the successive actions—needed to accomplish the task. When children master a challenge by performing the needed repeated activities, they are training their own positive willpower; they are harnessing their own powers of moral development. Real discipline, she stated, comes through activity directed to spontaneous work in which the child, through his or her own efforts (often repetitive ones), accomplishes his task.

Discipline, according to Montessori, related to the child's own selfhood, as a person in the process of self-formation, and to the child's social relationships and responsibilities. Her principle of "collective order" explained her concept of the evolving ethical relationship of the individual to others. The concept of "collective order" implied that the child was developing a sensitivity to achieving a balance between the behaviors and activities appropriate for individual expression and those needed for group order and social life. She used the metaphor of musicians in an orchestra to illustrate the relationship between individual freedom of performance and collective order. The musicians need to be individually competent in playing their instruments, but they also need to act as an orchestra, a collective association, in following the voiceless commands of the conductor.[137]

Working to master external challenges stimulates the child's sense of accomplishment and independence. The first dawning of real discipline comes through work—activity directed to spontaneous work, which leads to self-discipline. To be effectively disciplined, the child must be able to differentiate between good and evil. The teacher's challenge is to ensure that the child does not confuse good with immobility, and evil with activity.

Montessori distinguished her concept of children's freedom from that of overly permissive educators who consider children's freedom to be an end rather than a means. The overly permissive educators are often disciples of the wildly romantic Rousseau, or they are neo-Freudians who believe children should be free from repressions. They are also child-centered progressives who continue to battle against the restrictions they themselves felt in their own Victorian childhoods. The overly permissive educator believes that children should be totally liberated from repressive regulations and that there should be no corrections nor submission to authority. Romantic permissiveness, unguided by

scientific pedagogy, often causes a chaotic release of childish impulses that are no longer controlled as they once were by adults. For Montessori, this kind of permissiveness to "let the child do as he likes," when no powers of control have been developed, violates the true idea of freedom.[138]

Genuine freedom is a consequence of development, aided by education, as children actively construct their own personalities through their own self-active sustained work. The key to moral development comes from "concentration" on a piece of work. Concentration requires children to use objects for the purposes for which they were designed. In so doing, the child develops the sense that thought (the idea in mind) is related to action and that actions have consequences. Not only does this performance lead to the motor coordination of physical movements, but it simultaneously motivates the child to stay with a task and to meet and surmount a challenge. Concentration stimulates the development of the value of perseverance, using repetition to carry through, to complete the task that was begun.[139] As Montessori stated, "The essential thing is for the task to arouse such an interest that it engages the child's whole personality." Children, whose moral sensitivity is developing normally, demonstrate spontaneous discipline, continuous and happy work, and social sentiments of help and sympathy for others.[140]

An interesting difference can be noted in (a) Montessori's view of the correct use of an object and an activity related to it and (b) Dewey's experimentalism and Kilpatrick's progressivism. Montessori's operational premise was that an object possessed an antecedent structure that defined it and its proper use. Correct concentration, the key to developing the moral character, meant that the child was to perform an activity on the object correctly. The Montessori didactic materials were designed to be self-correcting. If the child did not perform an exercise correctly, he or she would fail in the task. Only as the child used the material correctly would the task be accomplished, with success in doing something right as its own reward. For Dewey and Kilpatrick and other experimentalist progressives, objects were instrumentally open to a variety of uses; their definition came from their practical use, rather than from their intrinsic nature. For the progressive educators, children exercised their creativity by designing innovative ways of using objects. For Kilpatrick, Montessori's concepts of concentration on an object and using it in a predetermined way were actually obstacles to the child's creativity. In contrast, Montessori believed children will focus first on an object involved in an activity and then on the knowledge derived from exploring and using it. The child becomes absorbed in seeing how a thing is made and learning how it works or functions. According to Montessori:

To know, to love and to serve is the trinomial of all religions, but the child is the true maker of our spirituality. He teaches us the plan of nature for giving form to our conduct and character, a plan fully traced out in all its details of age and work, with its need for freedom and intense activity in accordance with the laws of life. What matters is not physics, or botany, or works of the hand, but the will, and the components of the human spirit which construct themselves by work. The child is the spiritual builder of mankind, and obstacles to his free development are the stones in the wall by which the soul of man has become imprisoned.[141]

NOTES

1. Rita Kramer, *Maria Montessori: A Biography*, 22–24.
2. Freire, *Pedagogy of Freedom*, 32–33.
3. Justman, *The Italian People and Their Schools,* 24.
4. Kramer, *Maria Montessori: A Biography*, 33.
5. Kramer, *Maria Montessori: A Biography,* 34–35.
6. Gitter, *The Montessori Way,* 7.
7. Kramer, *Maria Montessori: A Biography,* 55.
8. Jules Michelet (1798–1874) was a noted French historian and writer who headed the historical section of the national archives and was professor of history at the College de France. His major work was the multivolume *Histoire de France* (1833–1867).
9. Pierre Joseph Proudhon (1809–1865) was a radical socialist theorist who developed the political ideology of syndicalism. He attacked private property, particularly capitalism, claiming that it was a system that exploited the working classes. He believed that humankind could make sufficient ethical progress so that government would wither away. His most important work is *The Philosophy of Poverty* (1846).
10. Cesare Lombroso (1835–1909), a leading Italian criminologist and physician who pioneered in the field of criminal anthropology, was professor of criminal anthropology at the University of Turin. He sought to develop a scientific approach to studying criminology using empirical data, such as skull measurements and facial structures. Although Montessori disagreed with Lombroso's view of women, she was influenced by his contributions to the scientific study of anthropology. Lombroso's most important work was *L'uomo delinquente* (1896–1897).
11. Giuseppe Sergi was a professor of anthropology at the University of Rome, where he established the influential Institute of Experimental Psychology. Sergi's development of physical anthropology, especially his emphasis on the laboratory method of science, influenced Montessori.
12. Kramer, *Maria Montessori: A Biography,* 79–81.
13. Kramer, *Maria Montessori: A Biography,* 48.
14. Two accounts of Itard's experiment with the wild boy of Aveyron were published: *De l'education d'un homme sauvage ou des premiers developpements physiques et moraux du jeune sauvage de l'Aveuron* (1801) and *Rapport sur les*

nouveaux developpements et l'etat actuel du sauvage de l'Aveyron (1807). For an English version, see Itard, *The Wild Boy of Aveyron*.

15. Itard's major work was the two-volume *Traite des maladies de l'oreille et de l'audition* (1821).

16. Seldin, "Montessori," 1676.

17. Maria Montessori, *The Montessori Method*, 33–34.

18. Seguin's major work was *Traitement Moral, Hygiene et Education des Idiots,* which was published in France in 1846. After his immigration to the United States, it was republished in English in 1886 as *Idiocy and Its Treatment by the Physiological Method*.

19. Kathrina Myers, "Seguin's Principles of Education," 538–41.

20. Maria Montessori, *The Montessori Method*, 37.

21. Kramer, *Maria Montessori: A Biography,* 73–76.

22. Maria Montessori, *The Montessori Method*, 44.

23. Kramer, *Maria Montessori: A Biography,* 92–93.

24. Kramer, *Maria Montessori: A Biography,* 185.

25. For Rousseau's theory of natural education, see Rousseau, *Emile, or On Education;* for a biography, see Cranston, *The Noble Savage*.

26. For Pestalozzi's philosophy of education, see Pestalozzi, *How Gertrude Teaches Her Children*; for a discussion of Pestalozzi's philosophy of education, see Gutek, *Pestalozzi and Education*.

27. For Froebel's educational philosophy, see Froebel, *The Education of Man*; for a biography, see Downs, *Friedrich Froebel*. Froebel's educational materials, the gifts and occupations, are discussed in Brosterman, *Inventing Kindergarten*.

28. For Parker's philosophy of education, see Parker, *Talks on Pedagogics;* for a biography, see Campbell, *Colonel Francis W. Parker.*

29. For Dewey's philosophy of education, see Dewey, *Democracy and Education*. For the Laboratory School, see Tanner, *Dewey's Laboratory School*.

30. For a biography of Kilpatrick, see Tenebaum, *William Heard Kilpatrick*.

31. For Freud's psychoanalytic theory, see Freud, *An Outline of Psychoanalysis*. For a biography of Freud, see Gay, *Freud: A Life for Our Time*.

32. Kramer, *Maria Montessori: A Biography,* 320–21.

33. Kramer, *Maria Montessori: A Biography,* 68–69.

34. Kramer, *Maria Montessori: A Biography,* 96–97.

35. Montessori, *Pedagogical Anthropology.*

36. Maria Montessori, *The Montessori Method*, 51.

37. Maria Montessori, *The Montessori Method*, 55.

38. Kramer, *Maria Montessori: A Biography,* 82–83.

39. Maria Montessori, *The Montessori Method*, 63.

40. Maria Montessori, *The Montessori Method*, 60–61.

41. Ward, *The Montessori Method and the American School,* 31.

42. Kramer, *Maria Montessori: A Biography,* 209–10.

43. Montessori, *The Advanced Montessori Method*.

44. Kramer, *Maria Montessori: A Biography,* 154.

45. French, "The Working of the Montessori Method," 423.
46. Standing, *Maria Montessori: Her Life and Work,* 62–66.
47. See her *Montessori for Parents* and *The Montessori Manual.* For Fisher's biography, see Washington, *Dorothy Canfield Fisher: A Biography.*
48. Fisher, *A Montessori Mother,* 21.
49. George, "The First Montessori School in America," 178.
50. George, "The First Montessori School in America," 178.
51. George, "The First Montessori School in America," 187.
52. Stevens, "The Montessori Movement in America," 222.
53. The Montessori Department, *McClure's Magazine* 41 (June 1913): 184.
54. Stevens, "The Montessori Method and the American Kindergarten," 77.
55. S. S. McClure to his wife, Hattie McClure, letter, November 10, 1913. McClure Manuscripts. Manuscript Collections. Lilly Library, Indiana University, Bloomington, Indiana.
56. S. S. McClure to his wife, Hattie McClure, letter, November 12, 1913. McClure Manuscripts. Manuscript Collections. Lilly Library, Indiana University, Bloomington, Indiana.
57. Kramer, *Maria Montessori: A Biography,* 182.
58. S. S. McClure to his wife, Hattie McClure, letter, 1913 (day and month not indicated). McClure Manuscripts. Manuscript Collections. Lilly Library, Indiana University, Bloomington, Indiana.
59. Anne E. George, "Interpretation of Dr. Montessori's Lecture," typescript. Lecture given at the Academy of Music, Brooklyn, New York, December 11, 1913. McClure Manuscripts. Manuscript Collections. Lilly Library, Indiana University, Bloomington, Indiana.
60. Suzzallo, "Editor's Introduction," vii.
61. Suzzallo, "Editor's Introduction," viii–ix.
62. R. B. McClure to S. S. McClure, letter, April 8, 1914. McClure Manuscripts. Manuscript Collections. Lilly Library, Indiana University, Bloomington, Indiana.
63. Briesen and Knauth to S. S. McClure, letter, April 9, 1914. McClure Manuscripts. Manuscript Collections. Lilly Library, Indiana University, Bloomington, Indiana.
64. Harriet McClure to S. S. McClure, letter, April 14, 1914. McClure Manuscripts. Manuscript Collections. Lilly Library, Indiana University, Bloomington, Indiana.
65. Maria Montessori to S. S. McClure, cablegram, April 15, 1914. McClure Manuscripts. Manuscript Collections. Lilly Library, Indiana University, Bloomington, Indiana.
66. Kramer, *Maria Montessori: A Biography,* 212–16.
67. Montessori, *Dr. Montessori's Own Handbook.*
68. Stevens, "The Montessori Method and the American Kindergarten," 77.
69. Montessori, *The Montessori Method,* 162.
70. Brosterman, *Inventing Kindergarten,* 40–88.
71. Montessori, *The Montessori Method,* 171.
72. Holmes, "Introduction," xx.
73. Holmes, "Introduction," xxi–xxiii.

BIBLIOGRAPHY

Ahlfeld, Kathy. "The Montessori Revival: How Far Will It Go?" *Nation's Schools* 85 (January 1970): 75–80.

Brosterman, Norman. *Inventing Kindergarten.* New York: Harry N. Abrams, 1997.

Campbell, Jack K. *Colonel Francis W. Parker: The Children's Crusader.* New York: Teachers College Press, 1967.

Connell, W. F. *A History of Education in the Twentieth Century World.* New York: Teachers College Press, 1980.

Cranston, Maurice. *The Noble Savage: Jean-Jacques Rousseau 1754–1762.* Chicago: University of Chicago Press, 1991.

Dewey, John. *Democracy and Education: An Introduction to the Philosophy of Education.* New York: Macmillan, 1916.

Downs, Robert B. *Friedrich Froebel.* Boston: Twayne Publishers, 1978.

Fisher, Dorothy Canfield. *A Montessori Mother.* New York: Henry Holt, 1912.

———. *Montessori for Parents.* Cambridge: Robert Bentley, 1965.

———. *The Montessori Manual.* Cambridge: Robert Bentley, 1964.

Freire, Paulo. *Pedagogy of Freedom: Ethics, Democracy, and Civic Courage.* Lanham, Md.: Rowman & Littlefield, 1998.

French, Ruth M. "The Working of the Montessori Method." *Journal of Education* 77 (October 1913): 423.

Freud, Sigmund. *An Outline of Psychoanalysis*. Translated by James Strachey. New York: W.W. Norton, 1949.

Froebel, Friedrich. *The Education of Man*. Translated by W. H. Hailman. New York: D. Appleton, 1896.

Gay, Peter. *Freud: A Life for Our Time.* New York: W.W. Norton, 1988.

George, Anne E. "The First Montessori School in America." *McClure's Magazine* 39 (June 1912): 177–87.

———. "Rhythm Work in the Children's House at Washington." *McClure's Magazine* 41 (May 1913): 182–86.

Gitter, Lena L. *The Montessori Way.* Seattle, Wash.: Special Child Publications, 1970.

———. *Montessori's Legacy to Children.* Johnstown: Farew, 1970.

Gutek, Gerald L. "Maria Montessori: Contributions to Educational Psychology." In *Educational Psychology: A Century of Contributions,* ed. Barry J. Zimmerman and Dale H. Schunk. New York: Lawrence Erlbaum, 2003: 171–186.

———. *Pestalozzi and Education.* Prospect Heights, Ill.: Waveland Press, 1999.

Hainstock, Elizabeth G. *The Essential Montessori.* New York: New American Library, 1978.

Hall, Vernon C. "Educational Psychology from 1800 to 1920." In *Educational Psychology: A Century of Contributions,* ed. Barry J. Zimmerman and Dale H. Schunk. New York: Lawrence Erlbaum, 2003: 3–39.

Halsey, Walter N. "A Valuation of the Montessori Experiments." *Journal of Education* 77 (January 1913): 63.

Harrison, Elizabeth. "The Montessori Method and the Kindergarten." *U.S. Bureau of Education Bulletin*, no. 28 (1914).

Holmes, Henry R. "Introduction." In *The Montessori Method*, by Maria Montessori. Translated by Anne E. George. New York: Frederick A. Stokes, 1912.

Hunt, J. M. "Introduction: Revisiting Montessori." In *The Montessori Method,* by Maria Montessori. New York: Schocken Books, 1964.

"Information about the Montessori Method." *McClure's Magazine* 37 (October 1911): 702–4.

Itard, Jean Marc Gaspard. *The Wild Boy of Aveyron.* New York: McGraw-Hill/Appleton & Lange, 1962.

Justman, Joseph. *The Italian People and Their Schools.* Tiffin, Ohio: Kappa Delta Pi, 1958.

Kilpatrick, William H. *The Montessori System Examined.* Boston: Houghton Mifflin, 1914.

———. "The Project Method." *Teachers College Record* 19 (September 1918): 319–35.

Kramer, Rita. *Maria Montessori: A Biography*. Reading, Mass.: Perseus Books, 1988.

———. *Maria Montessori: A Biography.* Reading, Mass.: Perseus Books, 1988.

McClure Manuscripts. Manuscript Collections. Lilly Library, Indiana University, Bloomington, Indiana.

"The Montessori American Committee." *McClure's Magazine* 39 (June 1912): 238.

Montessori, Maria. *The Absorbent Mind.* Foreword by John Chattin-McNichols. New York: Henry Holt, 1995.

———. *The Advanced Montessori Method*. Translated by F. Simmonds and I. Hutchinson. London: Heinemann, 1919.

———. "Disciplining Children." *McClure's Magazine* 39 (May 1912): 95–102.

———. *The Discovery of the Child.* Trans. Mary A. Johnstone. Madras, India: Vasanta Press, 1948.

———. *Dr. Montessori's Own Handbook.* New York: Frederick A. Stokes, 1914.

———. *Education and Peace.* Trans. Helen R. Lane. Chicago: Henry Regnery Press, 1949.

———. *From Childhood to Adolescence.* New York: Schocken Books, 1948.

———. *The Montessori Method.* Trans. Anne E. George. New York: Frederick A. Stokes, 1912.

———. *Pedagogical Anthropology.* Translated by Frederick T. Cooper. New York: Frederick A. Stokes, 1913.

———. "Plan for an International Institute." *McClure's Magazine* 40 (March 1913): 221.

———. *The Secret of Childhood.* Trans. Barbara Barclay Carter. New York: Frederick A. Stokes, 1939.

———. *Spontaneous Activity in Education.* Trans. Florence Simmonds. New York: Frederick A. Stokes, 1917.

Mussolini, Benito. *Fascism: Doctrine and Institution.* Rome: Ardita, 1935.

Myers, Kathrina. "Seguin's Principles of Education as Related to the Montessori Method." *Journal of Education* 77 (May 1913): 538–41.

Lillard, Paula P. *Montessori: A Modern Approach.* New York: Schocken Books, 1972.

Oren, R.C., ed. *Montessori, Her Method and the Movement, What You Need to Know.* New York: G. P. Putnam's Sons, 1974.

Parker, Francis W. *Talks on Pedagogics.* New York: E. L. Kellogg, 1894.

Pestalozzi, Johann Heinrich. *How Gertrude Teaches Her Children.* Syracuse, N.Y.: Bardeen, 1900.

Rambusch, Nancy McCormick. *Learning How to Learn.* Baltimore: Helicon Press, 1962.

Rousseau, Jean-Jacques. *Emile, or On Education.* Trans. Allan Bloom. New York: Basic Books, 1979.

Seldin, Timothy D. "Montessori." *Encyclopedia of Education*. 2nd ed. Vol. 5. Edited by James Guthrie (New York: Macmillan Reference USA/Thomson Gale, 2003).

Standing, E. M. *Maria Montessori: Her Life and Work.* New York: Penguin Putnam, 1998.

Stevens, Ellen Yale. "The Montessori Method and the American Kindergarten." *McClure's Magazine* 40 (November 1912): 77–82.

——. "The Montessori Movement: A New McClure Department." *McClure's Magazine* 40 (March 1913): 221.

——. "The Montessori Movement: A McClure Department, Answers to Correspondents." *McClure's Magazine* 40 (July 1913): 222–27.

——. "The Montessori Movement in America: A New McClure Department." *McClure's Magazine* 40 (February 1913): 222–27.

Suzzallo, Henry. "Editor's Introduction." In *The Montessori System Examined,* by William H. Kilpatrick. Boston: Houghton Mifflin, 1914.

Tanner, Laurel N. *Dewey's Laboratory School: Lessons for Today.* New York: Teachers College Press, 1997.

Tenebaum, Samuel. *William Heard Kilpatrick: Trail Blazer in Education.* New York: Harper and Brothers, 1951.

Ward, Florence E. *The Montessori Method and the American School.* New York: Macmillan, 1913.

Washington, Ida H. *Dorothy Canfield Fisher: A Biography.* Shelburne, Vt.: New England Press, 1982.

AN ANNOTATED EDITION OF MARIA MONTESSORI'S *THE MONTESSORI METHOD*

1

A Critical Consideration of the New Pedagogy in Its Relation to Modern Science

It is not my intention to present a treatise on scientific pedagogy. The modest design of these incomplete notes is to give the results of an experiment that apparently opens the way for putting into practice those new principles of science which in these last years are tending to revolutionize the work of education.

Much has been said in the past decade concerning the tendency of pedagogy, following in the footsteps of medicine, to pass beyond the purely speculative stage and base its conclusions on the positive results of experimentation. Physiological or experimental psychology which, from Weber and Fechner to Wundt, has become organized into a new science, seems destined to furnish to the new pedagogy that fundamental preparation which the old-time metaphysical psychology furnished to philosophical pedagogy.[1] Morphological anthropology applied to the physical study of children is also a strong element in the growth of the new pedagogy.[2]

But in spite of all these tendencies, scientific pedagogy has never yet been definitely constructed nor defined. It is something vague of which we speak, but which does not, in reality, exist. We might say that it has been, up to the present time, the mere intuition or suggestion of a science which, by the aid of the positive and experimental sciences that have renewed the thought of the nineteenth century, must emerge from the mist and clouds that have surrounded it. For man, who has formed a new world through scientific progress, must himself be prepared and developed through a new pedagogy. But I will not attempt to speak of this more fully here.

Several years ago, a well-known physician established in Italy a *School of Scientific Pedagogy*, the object of which was to prepare teachers to follow the new movement which had begun to be felt in the pedagogical world. This school

The truth is that the practical progress of the school demands a genuine *fusion* of these modern tendencies, in practice and thought; such a fusion as shall bring scientists directly into the important field of the school and at the same time raise teachers from the inferior intellectual level to which they are limited today. Toward this eminently practical ideal the University School of Pedagogy, founded in Italy by Credaro, is definitely working. It is the intention of this school to raise pedagogy from the inferior position it has occupied as a secondary branch of philosophy, to the dignity of a definite science, which shall, as does Medicine, cover a broad and varied field of comparative study.

And among the branches affiliated with it will most certainly be found Pedagogical Hygiene, Pedagogical Anthropology, and Experimental Psychology.

Truly, Italy, the country of Lombroso, of De-Giovanni, and of Sergi, may claim the honor of being preeminent in the organization of such a movement.[5] In fact, these three scientists may be called the founders of the new tendency in Anthropology: the first leading the way in criminal anthropology, the second in medical anthropology, and the third in pedagogical anthropology. For the good fortune of science, all three of them have been the recognized leaders of their special lines of thought, and have been so prominent in the scientific world that they have not only made courageous and valuable disciples, but have also prepared the minds of the masses to receive the scientific regeneration which they have encouraged. (For reference, see my treatise *Pedagogical Anthropology*.)[6]

Surely all this is something of which our country may be justly proud.

Today, however, those things which occupy us in the field of education are the interests of humanity at large, and of civilization, and before such great forces we can recognize only one country—the entire world. And in a cause of such great importance, all those who have given any contribution, even though it be only an attempt not crowned with success, are worthy of the respect of humanity throughout the civilized world. So, in Italy, the schools of Scientific Pedagogy and the Anthropological Laboratories, which have sprung up in the various cities through the efforts of elementary teachers and scholarly inspectors, and which have been abandoned almost before they became definitely organized, have nevertheless a great value by reason of the faith which inspired them, and because of the doors they have opened to thinking people.[7] . . .

To prepare teachers in the method of the experimental sciences is not an easy matter. When we shall have instructed them in anthropometry and psychometry in the most minute manner possible, we shall have only created machines, whose usefulness will be most doubtful. Indeed, if it is after this fashion that we are to initiate our teachers into experiment, we shall remain forever in the field

of theory. The teachers of the old school, prepared according to the principles of metaphysical philosophy, understood the ideas of certain men regarded as authorities, and moved the muscles of speech in talking of them, and the muscles of the eye in reading their theories. Our scientific teachers, instead, are familiar with certain instruments and know how to move the muscles of the hand and arm in order to use these instruments; besides this, they have an intellectual preparation which consists of a series of typical tests, which they have, in a barren and mechanical way, learned how to apply.

The difference is not substantial, for profound differences cannot exist in exterior technique alone, but lie rather within the inner man. Not with all our initiation into scientific experiment have we prepared *new masters*, for, after all, we have left them standing without the door of real experimental science; we have not admitted them to the noblest and most profound phase of such study—to that experience which makes real scientists.

And, indeed, what is a scientist? Not, certainly, he who knows how to manipulate all the instruments in the physical laboratory, or who in the laboratory of the chemist handles the various reactives with deftness and security, or who in biology knows how to make ready the specimens for the microscope. Indeed, it is often the case that an assistant has a greater dexterity in experimental technique than the master scientist himself. We give the name scientist to the type of man who has felt experiment to be a means guiding him to search out the deep truth of life, to lift a veil from its fascinating secrets, and who, in this pursuit, has felt arising within him a love for the mysteries of nature, so passionate as to annihilate the thought of himself. The scientist is not the clever manipulator of instruments, he is the worshipper of nature and he bears the external symbols of his passion as does the follower of some religious order. To this body of real scientists belong those who, forgetting, like the Trappists of the Middle Ages, the world about them, live only in the laboratory, careless often in matters of food and dress because they no longer think of themselves; those who, through years of unwearied use of the microscope, become blind; those who in their scientific ardor inoculate themselves with tuberculosis germs; those who handle the excrement of cholera patients in their eagerness to learn the vehicle through which the diseases are transmitted; and those who, knowing that a certain chemical preparation may be an explosive, still persist in testing their theories at the risk of their lives. This is the spirit of the men of science, to whom nature freely reveals her secrets, crowning their labors with the glory of discovery.

There exists, then, the "spirit" of the scientist, a thing far above his mere "mechanical skill," and the scientist is at the height of his achievement when the spirit has triumphed over the mechanism. When he has reached this point, science will receive from him not only new revelations of nature, but philosophic syntheses of pure thought.

It is my belief that the thing which we should cultivate in our teachers is more the *spirit* than the mechanical skill of the scientist; that is, the *direction* of the *preparation* should be toward the spirit rather than toward the mechanism. For example, when we considered the scientific preparation of teachers to be simply the acquiring of the technique of science, we did not attempt to make these elementary teachers perfect anthropologists, expert experimental psychologists, or masters of infant hygiene; we wished only to *direct* them toward the field of experimental science, teaching them to manage the various instruments with a certain degree of skill. So now, we wish to *direct* the teacher, trying to awaken in him, in connection with his own particular field, the school, that scientific *spirit* which opens the door for him to broader and bigger possibilities. In other words, we wish to awaken in the mind and heart of the educator an *interest in natural phenomena* to such an extent that, loving nature, he shall understand the anxious and expectant attitude of one who has prepared an experiment and who awaits a revelation from it.*

The instruments are like the alphabet, and we must know how to manage them if we are to read nature; but as the book, which contains the revelation of the greatest thoughts of an author, uses in the alphabet the means of composing the external symbols or words, so nature, through the mechanism of the experiment, gives us an infinite series of revelations, unfolding for us her secrets.

Now one who has learned to spell mechanically all the words in his spelling-book, would be able to read in the same mechanical way the words in one of Shakespeare's plays, provided the print were sufficiently clear. He who is initiated solely into the making of the bare experiment, is like one who spells out the literal sense of the words in the spelling-book; it is on such a level that we leave the teachers if we limit their preparation to technique alone.

We must, instead, make of them worshippers and interpreters of the spirit of nature. They must be like him who, having learned to spell, finds himself, one day, able to read behind the written symbols the *thought* of Shakespeare, or Goethe, or Dante. As may be seen, the difference is great, and the road long. Our first error was, however, a natural one. The child who has mastered the spelling-book gives the impression of knowing how to read. Indeed, he does read the signs over the shop doors, the names of newspapers, and every word that comes under his eyes. It would be very natural if, entering a library, this child should be deluded into thinking that he knew how to read *the sense* of all the books he saw there. But attempting to do this, he would soon feel that "to know how to read mechanically" is nothing, and that he needs to go back to school. So it is with the teachers whom we have thought to prepare for scientific pedagogy by teaching them anthropometry and psychometry.[8] . . .

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* See in my treatise on *Pedagogical Anthropology* the chapter on "The Method Used in Experimental Sciences."

It is not enough, then, to prepare in our Masters the scientific spirit. We must also make ready the *school* for their observation. The school must permit the *free*, *natural manifestations* of the *child* if in the school scientific pedagogy is to be born. This is the essential reform.

No one may affirm that such a principle already exists in pedagogy and in the school. It is true that some pedagogues, led by Rousseau, have given voice to impracticable principles and vague aspirations for the liberty of the child, but the true concept of liberty is practically unknown to educators.[9] They often have the same concept of liberty which animates a people in the hour of rebellion from slavery, or perhaps, the conception of *social liberty*, which although it is a more elevated idea, is still invariably restricted. "Social liberty" signifies always one more round of Jacob's ladder. In other words it signifies a partial liberation, the liberation of a country, of a class, or of thought.

That concept of liberty which must inspire pedagogy is, instead, universal. The biological sciences of the nineteenth century have shown it to us when they have offered us the means for studying life. If, therefore, the old-time pedagogy foresaw or vaguely expressed the principle of studying the pupil before educating him, and of leaving him free in his spontaneous manifestations, such an intuition, indefinite and barely expressed, was made possible of practical attainment only after the contribution of the experimental sciences during the last century. This is not a case for sophistry or discussion, it is enough that we state our point. He who would say that the principle of liberty informs the pedagogy of today, would make us smile as at a child who, before the box of mounted butterflies, should insist that they were alive and could fly. The principle of slavery still pervades pedagogy, and, therefore, the same principle pervades the school. I need only give one proof—the stationary desks and chairs. Here we have, for example, a striking evidence of the errors of the early materialistic scientific pedagogy which, with mistaken zeal and energy, carried the barren stones of science to the rebuilding of the crumbling walls of the school. The schools were at first furnished with the long, narrow benches upon which the children were crowded together. Then came science and perfected the bench. In this work much attention was paid to the recent contributions of anthropology. The age of the child and the length of his limbs were considered in placing the seat at the right height. The distance between the seat and the desk was calculated with infinite care, in order that the child's back should not become deformed, and, finally, the seats were separated and the width so closely calculated that the child could barely seat himself upon it, while to stretch himself by making any lateral movements was impossible. This was done in order that he might be separated from his neighbor. These desks are constructed in such a way as to render the child visible in all his immobility. One of the ends sought through this separation is the prevention of immoral acts in the schoolroom. What shall we say of such prudence in a state of soci-

rock and shaped the iron to his uses, bends, and cannot resist, under the yoke of the school.

It is incomprehensible that so-called *science* should have worked to perfect an instrument of slavery in the school without being enlightened by one ray from the movement of social liberation, growing and developing throughout the world. For the age of scientific benches was also the age of the redemption of the working classes from the yoke of unjust labor.

The tendency toward social liberty is most evident, and manifests itself on every hand. The leaders of the people make it their slogan, the laboring masses repeat the cry, scientific and socialistic publications voice the same movement, our journals are full of it. The underfed workman does not ask for a tonic, but for better economic conditions which shall prevent malnutrition. The miner who, through the stooping position maintained during many hours of the day, is subject to inguinal rupture, does not ask for an abdominal support, but demands shorter hours and better working conditions, in order that he may be able to lead a healthy life like other men.

And when, during this same social epoch, we find that the children in our schoolrooms are working amid unhygienic conditions, so poorly adapted to normal development that even the skeleton becomes deformed, our response to this terrible revelation is an orthopedic bench. It is much as if we offered to the miner the abdominal brace, or arsenic to the underfed workman.

Some time ago a woman, believing me to be in sympathy with all scientific innovations concerning the school, showed me with evident satisfaction *a corset* or *brace for pupils*. She had invented this and felt that it would complete the work of the bench.

Surgery has still other means for the treatment of spinal curvature. I might mention orthopedic instruments, braces, and a method of periodically suspending the child, by the head or shoulders, in such a fashion that the weight of the body stretches and thus straightens the vertebral column. In the school, the orthopedic instrument in the shape of the desk is in great favor; today someone proposes the brace—one step farther and it will be suggested that we give the scholars a systematic course in the suspension method!

All this is the logical consequence of a material application of the methods of science to the decadent school. Evidently the rational method of combating spinal curvature in the pupils, is to change the form of their work—so that they shall no longer be obliged to remain for so many hours a day in a harmful position. It is a conquest of liberty which the school needs, not the mechanism of a bench.

Even were the stationary seat helpful to the child's body, it would still be a dangerous and unhygienic feature of the environment, through the difficulty of cleaning the room perfectly when the furniture cannot be moved. The

True, we say that social man is natural man yoked to society. But if we give a comprehensive glance to the moral progress of society, we shall see that little by little, the yoke is being made easier, in other words, we shall see that nature, or life, moves gradually toward triumph. The yoke of the slave yields to that of the servant, and the yoke of the servant to that of the workman.

All forms of slavery tend little by little to weaken and disappear, even the sexual slavery of woman. The history of civilization is a history of conquest and of liberation. We should ask in what stage of civilization we find ourselves and if, in truth, the good of prizes and of punishments be necessary to our advancement. If we have indeed gone beyond this point, then to apply such a form of education would be to draw the new generation back to a lower level, not to lead them into their true heritage of progress.

Something very like this condition of the school exists in society, in the relation between the government and the great numbers of the men employed in its administrative departments. These clerks work day after day for the general national good, yet they do not feel or see the advantage of their work in any immediate reward. That is, they do not realize that the state carries on its great business through their daily tasks, and that the whole nation is benefited by their work. For them the immediate good is promotion, as passing to a higher class is for the child in school. The man who loses sight of the really big aim of his work is like a child who has been placed in a class below his real standing: like a slave, he is cheated of something which is his right. His dignity as a man is reduced to the limits of the dignity of a machine which must be oiled if it is to be kept going, because it does not have within itself the impulse of life. All those petty things such as the desire for decorations or medals, are but artificial stimuli, lightening for the moment the dark, barren path in which he treads.

In the same way we give prizes to school children. And the fear of not achieving promotion withholds the clerk from running away, and binds him to his monotonous work, even as the fear of not passing into the next class drives the pupil to his book. The reproof of the superior is in every way similar to the scolding of the teacher. The correction of badly executed clerical work is equivalent to the bad mark placed by the teacher upon the scholar's poor composition. The parallel is almost perfect.[10] . . .

As for punishments, the soul of the normal man grows perfect through expanding, and punishment as commonly understood is always a form of *repression*. It may bring results with those inferior natures who grow in evil, but these are very few, and social progress is not affected by them. The penal code threatens us with punishment if we are dishonest within the limits indicated by the laws. But we are not honest through fear of the laws; if we do not rob, if we do not kill, it is because we love peace, because the natural

trend of our lives leads us forward, leading us ever farther and more definitely away from the peril of low and evil acts.

Without going into the ethical or metaphysical aspects of the question, we may safely affirm that the delinquent before he transgresses the law, has, *if he knows of the existence of a punishment*, felt the threatening weight of the criminal code upon him. He has defied it, or he has been lured into the crime, deluding himself with the idea that he would be able to avoid the punishment of the law. But there has occurred within his mind, *a struggle between the crime and the punishment*. Whether it be efficacious in hindering crime or not, this penal code is undoubtedly made for a very limited class of individuals; namely, criminals. The enormous majority of citizens are honest without any regard whatever to the threats of the law.

The real punishment of normal man is the loss of the consciousness of that individual power and greatness which are the sources of his inner life. Such a punishment often falls upon men in the fullness of success. A man whom we would consider crowned by happiness and fortune may be suffering from this form of punishment. Far too often man does not see the real punishment which threatens him.

And it is just here that education may help.

Today we hold the pupils in school, restricted by those instruments so degrading to body and spirit, the desk—and material prizes and punishments. Our aim in all this is to reduce them to the discipline of immobility and silence—to lead them—where? Far too often toward no definite end.

Often the education of children consists in pouring into their intelligence the intellectual content of school programs. And often these programs have been compiled in the official department of education, and their use is imposed by law upon the teacher and the child.[11] . . .

EDITOR'S NOTES

1. Montessori emphasized the need to base education on science rather than speculative metaphysics. Here, she identified three founding figures of physiological or experimental psychology. Ernst H. Weber (1795–1878), who studied the sensitivity of sensory systems by conducting experimentation on sensory phenomenon. He is noted for "Weber's Law," the possibility of establishing relationships between variations in physical and mental events. Weber also coined the phrase, "JND," which denoted the smallest perceptible difference between two sensations. Gustav Theodor Fechner (1801–1887), who developed psychophysics, which he believed was a scientific means of examining and measuring the functional relationships between the mind and body and established methods of measuring these relationships. Wilhelm Max Wundt (1832–1920), who is credited

with developing experimental psychology that emphasized the relationships between psychology and physiology and the use of scientific methods in psychology. In her quest to develop a "scientific pedagogy," Montessori emphasized the relationships between the child's mental powers and sensation of external phenomenon.

2. Montessori uses the term "morphological anthropology" to mean the scientific study of the development, functions, and relationships between human mental and physical structures and organs. Her emphasis is on the relationships between physiology and psychology in human development rather than on the study of racial and group classifications and cultures.

3. Giuseppe Sergi (1841–1936) was a pioneer Italian anthropologist who established the first psychological laboratory at the University of Rome. His Educazione ed Istruzione (1892) emphasized the use of anthropology and experimental psychology in education. Montessori's quotes from Giuseppe Sergi's book on pages 2–3, where he urged using pedagogical anthropology and experimental psychology to create a new method of education are deleted.

4. Anthropometry refers to the science of measuring the human body and its parts and functional capacities; Psychometry refers to the branch of psychology relating to the empirical mental measurements to elicit quantitative data.

5. Montessori is referring to the contributions to experimental psychology made by Achille de Giovanni, a professor of medicine, who emphasized clinical observation and the use of anthropometry in medical education in Italy. Cesare Lombroso, a physician and surgeon, developed the field of criminal anthropology in Italy and used a variety of anthropological and physiological measurements to identify the criminal type. Sergi, a professor of anthropology, was one of Montessori's teachers at the University of Rome.

6. Montessori is referring to her book, *L'Antropolgia Pedagogica*. An English-language version was *Maria Montessori, Pedagogical Anthropology* (New York: Frederick A. Stokes, 1913).

7. The section, pp. 6–7, where Montessori praises St. Francis as a person who achieved a great cause after suffering repeated failures is deleted.

8. Montessori's inspirational exhortations and examples about the need of the directress to go beyond mechanics to respect of the child's spiritual nature that appear on pp. 11–14 are deleted.

9. Montessori is distinguishing her approach from that of Jean-Jacques Rousseau (1712–1778), the French philosopher, who wrote *Emile*, a didactic novel about the education of a boy according to natural principles, who lives on a country estate, and is guided by a highly permissive tutor. Rousseau's version of child freedom was one in which the child learned by direct experience and observation of the environment with little adult intervention. Rousseau's theory of child freedom and education based on sensation appealed to many educators, such as the Swiss pedagogue, Johann Heinrich Pestalozzi, and to child-centered progressives in the United States. Montessori rejects Rousseau's romanticized view of the child as a "noble savage" and argued that true child freedom takes place within the structured environment.

10. Montessori's several examples on the use of prizes and punishments in society and the military on pp. 23–25 are deleted.

11. A short quote from Sergi about the need to reconstruct methods of education is deleted on p. 11.

2

History of Methods

If we are to develop a system of scientific pedagogy, we must, then, proceed along lines very different from those that have been followed up to the present time. The transformation of the school must be contemporaneous with the preparation of the teacher. For if we make of the teacher an observer, familiar with the experimental methods, then we must make it possible for her to observe and to experiment in the school. The fundamental principle of scientific pedagogy must be, indeed, the *liberty of the pupil*—such liberty as shall permit a development of individual, spontaneous manifestations of the child's nature. If a new and scientific pedagogy is to arise from the *study of the individual*, such study must occupy itself with the observation of *free* children. In vain should we await a practical renewing of pedagogical methods from methodical examinations of pupils made under the guidance offered today by pedagogy, anthropology, and experimental psychology.

Every branch of experimental science has grown out of the application of a method peculiar to itself. Bacteriology owes its scientific content to the method of isolation and culture of microbes. Criminal, medical, and pedagogical anthropology owe their progress to the application of anthropological methods to individuals of various classes, such as criminals, the insane, the sick of the clinics, scholars. So experimental psychology needs as its starting point an exact definition of the technique to be used in making the experiment.

To put it broadly, it is important to define *the method, the technique*, and from its application to *await* the definite result, which must be gathered entirely from actual experience. One of the characteristics of experimental sciences is to proceed to the making of an experiment *without preconceptions of any sort* as to the final result of the experiment itself. For example, should we wish to make

Education

"An outstanding contribution. Gutek has given us a treasure trove of information and insights to be mined over and over again. *The Montessori Method* is required reading for the college student who wants to find out more about this important figure in twentieth-century education reform, as well as for the scholar seeking original sources for Montessori research."

—James C. Moses, Lewis University

An essential resource for all students and scholars of early childhood education, this book offers a rich array of material about Maria Montessori and the Montessori method. Distinguished education scholar Gerald Gutek begins with an in-depth biography of Montessori, exploring how a determined young woman overcame obstacles that blocked her educational and career opportunities in Italy during the late Victorian age. The author then analyzes the sources and influences that shaped the Montessori philosophy of education. After laying the foundation for Montessori's development, Gutek presents an annotated and abridged edition of *The Montessori Method* (1912), the seminal work that introduced her educational innovations to a U.S. audience. The book concludes with key historical documents, including disciple Anne E. George's notes on the Montessori lectures and William H. Kilpatrick's critique of the Montessori method. Preserving the historical context of Montessori's contribution, Gutek also shows the continuing relevance of her thought to educational reform in the twenty-first century.

About the Editor

Gerald Lee Gutek is professor emeritus at Loyola University. In 1989, he was the Loyola University of Chicago Outstanding Faculty Member. Among his books are *A History of the Western Educational Experience* (1995), *Philosophical and Ideological Perspectives on Education* (1997), *American Education 1945–2000: A History and Commentary* (2000), and *Historical and Philosophical Foundations of Education: A Biographical Introduction* (2000).

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