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MONTESSORI

A MODERN APPROACH

PAULA POLK LILLARD

SCHOCKEN BOOKS · NEW YORK 1972

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The Montessori Method

UNLIKE MANY educational philosophers, Montessori developed an educational method to implement her philosophy. Her genius in this respect is an important reason for the enduring and widespread impact of her work. It should be kept in mind, however, that Montessori wanted her method to be considered an open-minded one, and not a fixed system. She believed in innovation in the classroom, and her whole approach to education was in the spirit of constant experimentation based on observation of the child.

There are two key components to the Montessori method: the environment, including the educational materials and exercises; and the teachers who prepare this environment. Montessori considered her emphasis on the environment a primary element in her method. She described this environment as a nourishing place for the child. It is designed to meet his needs for self-construction and to reveal his personality and growth patterns to us. This means that not only must it contain what the child needs in a positive sense, but all obstacles to his growth must be removed from it as well.

Although Montessori placed this unusual emphasis on the environment, it is important to keep three ideas in mind. First, she regarded the environment as secondary to life itself. "It can modify in that it can help or hinder, but it can never create. . . . The origins of the development both in the species and in the individual, lie within." [1] The child then does not

grow because he happens to be placed in a nourishing environment. "He grows because the potential life within him develops, making itself visible." [2] Second, the environment must be carefully prepared for the child by a knowledgeable and sensitive adult. Third, the adult must be a participant in the child's living and growing within it.

> Plainly, the environment must be a living one, directed by a higher intelligence, arranged by an adult who is prepared for his mission. It is in this that our conception differs both from that of the world in which the adult does everything for the child and from that of a passive environment in which the adult abandons the child to himself . . . This means that it is not enough to set the child among objects in proportion to his size and strength; the adult who is to help him must have learned how to do so.[3]

If the teacher is to play this key role in the environment for the child, she clearly must be open to life and the process of becoming herself. If she is a rigid person for whom life has become existing rather than growing, she will not be able to prepare a living environment for the children. Her classroom will be a static place, rather than one actively responsive to the continually changing needs of a growing child. It is essential to keep this understanding in mind before going on to a description of the Montessori environment; much will depend on the teacher's ability to participate with the children in a life of becoming.

There are six basic components to the Montessori classroom environment. They deal with the concepts of freedom, structure and order, reality and nature, beauty and atmosphere, the Montessori materials, and the development of community life.

Freedom is an essential element in a Montessori environment for two reasons. First, it is only in an atmosphere of freedom that the child can reveal himself to us. Since the duty of the educator is to identify and aid the child's psychic

development, he must have an opportunity to observe the child in as free and open an environment as possible. If a new education is "to arise from the study of the individual, such study must occupy itself with the observation of free children." [4] Second, if the child possesses within himself the pattern for his own development, this inner guide must be allowed to direct the child's growth.

Although previous educators had espoused liberty for the child, Montessori had a new concept in mind.

> It is true that some pedagogues, led by Rousseau, have given voice to impractical principles and vague aspirations for the liberty of the child, but the true concept of liberty is practically unknown to educators.[5]

The freedom referred to by earlier educators was often a negative reaction to earlier domination—a release from oppressive bonds or previous submission to authority which results in an outpouring of disorder and primitive impulses. Montessori regarded a child given freedom in this situation as at the mercy of his deviations, and not in command of his own will. He would not be free at all.

Montessori believed that freedom for the child depended upon a previous development and construction of his personality involving his independence, will, and inner discipline. "Real freedom . . . is a consequence of development . . . of latent guides, aided by education." [6] These latent guides within the child direct him toward the independence, will, and discipline essential for his freedom. How is he to be aided in their development? First, he must be helped toward independence through his environment. "The absurd mistake in envisaging the freedom of the child in education has lain in imagining his hypothetical independence of the adult without corresponding preparation of the environment." [7] The child must be given activities that encourage independence, and he must not be served by others in acts he can learn to perform for himself.

> No one can be free unless he is independent: therefore, the first, active manifestations of the child's individual liberty must be so guided that through this activity he may arrive at independence. . . .
>
> We habitually serve children; and this is not only an act of servility toward them, but it is dangerous, since it tends to suffocate their useful, spontaneous activity. . . .
>
> Our duty toward him is, in every case, that of helping him to make a conquest of such useful acts as nature intended he should perform.[8]

Second, the child must be aided in developing his will by being encouraged to coordinate his actions toward a given end and to achieve something he himself has chosen to do. Adults must be on their guard against tyrannizing him and substituting their wills for his.

Third, the child must be aided in developing discipline by being provided with opportunities for constructive work. "To obtain discipline . . . it is not necessary for the adult to be a guide or mentor in conduct, but to give the child the opportunities of work." [9] The process whereby inner discipline results from the child's work will be discussed in more detail later, but its key role should be kept in mind.

Fourth, the child must be aided in developing a clear understanding of good and evil. "The first idea that the child must acquire, in order to be actively disciplined, is that of the difference between good and evil." [10] To achieve this distinction, the adult must set firm limits against destructive and asocial actions.

> The liberty of the child should have as its limit the collective interest; as its form, what we universally consider good breeding. We must, therefore, check in the child whatever offends or annoys others, or whatever tends toward rough or ill-bred acts.[11]

Montessori described a classroom that had achieved her concept of free operation as "a room in which all the children

move about usefully, intelligently, and voluntarily, without committing any rough or rude act." [12]

In striving to develop this freedom, it should be clearly established that only the destructive acts of the child are to be limited. "All the rest—every manifestation having a useful scope—whatever it be, and under whatever form it expresses itself, must not only be permitted but must be observed by the teacher." [13]

The children are, therefore, free to move about the classroom at will—ideally to an outside environment, weather permitting, as well as inside the classroom. Montessori described this outside environment as an "open-air space, which is to be in direct communication with the schoolroom, so that the children may be free to go and come as they like, throughout the entire day." [14] Because of this freedom of movement, a Montessori day is not divided between work periods and rest or play periods, as is accepted practice in traditional schools.

The children are free to choose their own activities in the classroom, again keeping in mind "that here we do not speak of useless or dangerous acts, for these must be suppressed." [15] This protection of the child's choice is a key element in the Montessori method, and it must not be violated. "It is necessary rigorously to avoid the arrest of spontaneous movements and the imposition of arbitrary tasks." [16] In order to have a choice of activities, the child must be presented with a variety of exercises designed for his auto-education.

> The child, left at liberty to exercise his activities, ought to find in his surroundings something organized in direct relation to his internal organization which is developing itself by natural laws.[17]

A true choice will depend upon a knowledge of the exercises. Before using the materials, then, the child must have an introduction to them either through an individual lesson given by the teacher or by observing their use by another child.

Because they momentarily impose on the child's freedom, these lessons are brief.

> We admit every lesson infringes the liberty of the child, and for this reason we allow it to last only for a few seconds. . . . It is in the subsequent free choice, and the repetition of the exercise, as in the subsequent activity, spontaneous, associative, and reproductive, that the child will be left "free." [18]

In order not to interfere with the child's free choice of activity, there are no artificially induced competitions or rewards and punishments in the Montessori classroom.

> Such prizes and punishments are . . . the instrument of slavery for the spirit. . . . The prize and the punishment are incentives toward unnatural or forced effort, and therefore we certainly cannot speak of the natural development of the child in connection with them.[19]

The children are given as much freedom to work out their own social relations with each other as possible. Montessori felt that, for the most part, children like to solve their social problems, and that adults cause harm by too early and frequent interference.

> When adults interfere in this first stage of preparation for social life, they nearly always make mistakes. . . . Problems abound at every step and it gives the children great pleasure to face them. They feel irritated if we intervene, and find a way if left to themselves.[20]

Unlike traditional classrooms, the children speak to each other and initiate activities together whenever they like. They are not forced, subtly or otherwise, to join in any group activities or to share themselves with others when they are not ready or interested. Because they are not forced to compete with each other, their natural desire to help others develops spontaneously. This phenomenon is particularly interesting to

watch in the older and younger children in the classroom, whose age differential may be as much as four years.

Because the Montessori approach to the social life of the children is different from that of a traditional classroom, the emphasis on it is often missed.

> Teachers who use direct methods cannot understand how social behavior is fostered in a Montessori school. They think it offers scholastic material but not social material. They say, "If the child does everything on his own, what becomes of social life?" But what is social life if not the solving of social problems, behaving properly, and pursuing aims acceptable to all? To them, social life consists in sitting side by side and hearing someone else talk; but that is just the opposite. The only social life that children get in the ordinary schools is during playtime or on excursions. Ours live always in an active community.[21]

Through the freedom he is given in a Montessori environment, the child has a unique opportunity to reflect upon his own actions, to determine their consequences both for himself and for others, to test himself against the limits of reality, to learn what gives him a sense of fulfillment and what leaves him feeling empty and dissatisfied, and to discover both his capabilities and his shortcomings. The opportunity to develop self-knowledge is one of the most important results of freedom in a Montessori classroom.

A second key element in the Montessori environment is its structure and order. The underlying structure and order of the universe must be reflected in the classroom if the child is to internalize it, and thus build his own mental order and intelligence. Through this internalized order, the child learns to trust his environment and his power to interact with it in a positive way. It insures for the child the possibility of purposeful activity. He knows where to go to find the materials of his choice. To assist him in his choice, the materials are grouped according to the interest they appeal to, and arranged in sequence as to their difficulty or the degree of complication.

Order means that the child is assured the possibility of a completed cycle of activity in using the materials. He will find all the pieces needed for the exercise he chooses; nothing will be broken or missing. No one will be permitted to interrupt him or to interfere with his work. He will return the materials to the place—and in the condition—in which he found them. By returning the materials, the child not only participates in the full cycle of activity, but becomes an integral partner in maintaining the order of the classroom. The matter-of-fact way in which the child accepts this responsibility in a Montessori classroom often comes as a surprise to parent and educator alike. We are accustomed to observing children in environments that are not structured for their needs, and therefore we do not often have an opportunity to witness this aspect of their developing natures.

Although it is essential that the environment be ordered, it is not necessary or desirable for every item to remain in exactly the same place. In practice, an alert teacher will find it necessary to rearrange continuously many individual items in the environment in order to keep it a living place, responsive to the children as they grow. For example, a teacher who feels a piece of material may have become part of the background and thus overlooked, or who wishes to draw a child's attention to an exercise without obvious direction, may place the material on a table in a prominent part of the room for a day or two. The teacher will find the flexibility she needs to maintain the necessary order in the classroom, without creating a static environment, if she keeps in mind the underlying purpose of structure for the child: it is not to serve the needs of insecure or rigid adults, but to aid children in building their intelligence and trust in the environment.

A third component of the Montessori environment is its emphasis on reality and nature. The child must have the opportunity to internalize the limits of nature and reality if he is to be freed from his fantasies and illusions, both physical and psychological. Only in this way can he develop the self-

discipline and security he needs to explore his external and internal worlds and to become an acute and appreciative observer of life. The equipment in the classroom, therefore, is geared to bringing the child into closer contact with reality. A refrigerator, stove, sink, and telephone are all authentic. The silver to be polished is tarnished. Nourishing food is prepared and served. Not only is the equipment realistic, but it is not designed to hide and therefore encourage errors. The furniture is light, and reasonable care must be taken not to knock it over. Often real glasses are used for juice, a heated iron for ironing, a sharp knife for cutting vegetables.

Also in keeping with the real world, where everyone cannot have the same thing at once, there is only one piece of each type of equipment in the Montessori classroom. Because he has no alternative, the child learns to wait until another is finished if the exercise he wants is in use. "The child comes to see that he must respect the work of others, not because someone has said he must, but because this is a reality he meets in his daily experience." [22]

Montessori emphasized the importance of contact with nature for the developing child. Man "still belongs to nature, and, especially when he is a child, he must needs draw from it the forces necessary to the development of the body and of the spirit." [23] The method she favored for the initial contact with nature was through the care of plants and animals.[24] Montessori was aware that, with the spread of urban life, it would be increasingly difficult to satisfy this deep need of the child. She was, however, insistent:

> There must, however, be provision for the child to have contact with Nature; to understand and appreciate the order, the harmony, and the beauty in Nature; and also to master the natural laws which are the basis of all sciences and arts, so that the child may better understand and participate in the marvelous things which civilization creates. Speeding up the march of civilization and at the same time being in touch with Nature create a difficult social problem. It thus becomes a duty of society to satisfy the needs of the child at various stages of development, if the child and consequently society and mankind are not to go under but are to advance on the road of progress.[25]

This emphasis on nature should permeate the atmosphere of the Montessori environment, and be one of its most readily recognizable components. The room and outside area should be alive with growing things of all kinds which are cared for by the children. In addition, there should be magnifying glasses, microscopes, and simple experiments of many varieties for the children to perform themselves. Perhaps most important of all, the children must have unhurried time in the woods and country to discover oneness with creation and absorb the wonder of the natural world.

Closely connected with an emphasis on nature is a fourth concept fundamental to the Montessori environment—beauty and an atmosphere that encourages a positive and spontaneous response to life. Perhaps because Dr. Montessori began her life as an educator with children from insane asylums and slums, she was particularly sensitive to this need of the child. She regarded beauty not as an extra aid for the developing child, but as a positive need in calling forth his power to respond to life. Because true beauty is based upon simplicity, the classroom need not be an elaborate place; but everything within it must be of good design and quality, and as carefully and attractively displayed as a well-planned exhibit. The colors should be bright and cheerful, and harmoniously arranged. The atmosphere of the room must be relaxing and warm, and invite participation.

A fifth component of the classroom, the Montessori equipment, is widely publicized and its role often misunderstood. Because of their visibility, the Montessori materials tend to be overemphasized in relation to the other elements in the Montessori method. In addition, their purpose is often confused. They are not learning equipment in the conventional

sense, because their aim is not the external one of teaching children skills or imparting knowledge through "correct usage." [26] Rather, the aim is an internal one of assisting the child's self-construction and psychic development. They aid this growth by providing the child with stimuli that capture his attention and initiate a process of concentration.

> The first essential for the child's development is concentration. . . . He must find out how to concentrate, and for this he needs things to concentrate upon. . . . Indeed, it is just here that the importance of our schools really lies. They are places in which the child can find the kind of work that permits him to do this.[27]

If the teacher has materials to offer that polarize the child's attention, he will find it possible to give the child the freedom he needs for his development.[28]

In order to serve their purpose of internal formation, the materials must correspond to the child's inner needs. This means that any individual material must be presented to the child at the right moment in his development. Montessori suggested age levels for introducing each of her materials to the child; however, the sensitive moment for introduction to any individual child must be determined by observation and experimentation. The teacher watches for the quality of concentration in the child and for a spontaneous repetition of his actions with a material. These responses will indicate the meaningfulness of the material to him at that particular moment in his growth and whether the intensity of the stimulus which that material represents for him is also matched to his internal needs. Both the material itself and the intensity of stimulus it presents can be varied to meet the child's inner needs.[29] The quantity of the stimuli also must be adjusted to the child's needs.

> An excessive quantity of the educative material . . . may dissipate the attention, render the exercises with the objects mechanical, and cause the child to pass by his psychological moment of ascent without perceiving it and seizing it. . . . Over-abundance debilitates and retard progress; this has been proved again and again.[30]

Because matching the materials to the child's inner needs is essential, there can be no rote following of the designed progression in introducing the materials. The teacher must be flexible in altering the sequence or omitting materials an individual child shows no need for.

Because educational materials of the past had been designed for a passive child waiting to receive instructions, Montessori considered her materials a "scientific departure" from the past. Her materials instead are based on

> the conception of an active personality—reflex and associative—developing itself by a series of reactions induced by systematic stimuli which have been determined by experiment. This new pedagogy accordingly belongs to the series of modern sciences. . . . The "method" which informs it—namely, experiment, observation, evidence or proof, the recognition of new phenomena, their reproduction and utilization—undoubtedly place it among the experimental sciences.[31]

This new approach to education, suggested to her by the work of Itard and Séguin, was regarded by Montessori as her "initial contribution to education" and "the key" to the continuation of her work.[32]

In addition to meaningfulness to the child, there are at least five other principles involved in the determining of Montessori materials. First, the difficulty or the error that the child is to discover and understand must be isolated in a single piece of material. This isolation simplifies the child's task for him and enables him to perceive the problem more readily. A tower of blocks will present to the child only a variation in size from block to block—not a variation in size, color, designs, and noises, such as are often found in block towers in American toy stores.

Second, the materials progress from simple to more complex design and usage. A first set of numerical rods to teach seriation vary in length only. After discovering length sensorially through these rods, a second set, colored red and blue, in one-meter dimension, can be used to associate numbers and length and to understand simple problems of addition and subtraction. A third set of rods, much smaller in size because the initial dependence on sensorial learning and motor development has been passed, is used in association with a board chart for more complicated mathematical problems and the introduction of writing numerical problems.

Third, the materials are designed to prepare the child indirectly for future learning. The development of writing is a good example of this indirect preparation. From the beginning, knobs on materials, by which the child lifts and manipulates them, have acted to coordinate his finger and thumb motor action. Through the making of designs that involves using metal insets to guide his movements, the child has developed the ability to use a pencil. By tracing sandpaper letters with his finger, he has developed a muscle memory of the pattern for forming letters. When the day arrives that the child is motivated to write, he can do so with a minimum of frustration and anxiety. This principle of indirect preparation enables the child to experience success in his endeavors much more readily and aids the development of self-confidence and initiative.

Fourth, the materials begin as concrete expressions of an idea and gradually become more and more abstract representations. A solid wooden triangle is sensorially explored. Separate pieces of wood representing its base and sides are then presented, and the triangle's dimensions discovered. Later, flat wooden triangles are fitted into wooden puzzle trays, then on solidly colored paper triangles, then on triangles outlined with a heavy colored line, and finally on the abstraction of thinly outlined triangles. At a certain stage in this progression, the child will have grasped the abstract essence of the concrete

material, and will no longer be dependent upon or show the same interest in them.

> When the instruments [materials] have been constructed with great precision, they provoke a spontaneous exercise so coordinated and so harmonious with the facts of internal development, that at a certain point a new psychical picture, a species of higher plane in the complex development, is revealed. The child turns away spontaneously from the material, not with any signs of fatigue, but rather as if impelled by fresh energies, and his mind is capable of abstractions.[53]

The greater a child's absorption with a piece of material, the more likely that he is making the transition from concrete knowledge to abstract knowledge. This is a natural process that should not be interfered with. If, at this point, the teacher tries to emphasize concrete objects with the child, she will interrupt his natural development.[54]

Montessori materials are designed for auto-education, and the control of error lies in the materials themselves rather than in the teacher. The control of error guides the child in his use of the materials and permits him to recognize his own mistakes.

> "Control of error" is any kind of indicator which tells us whether we are going toward our goal, or away from it. . . . We must provide this as well as instruction and materials on which to work. The power to make progress comes in large measure from having freedom and an assured path along which to go; but to this must also be added some way of knowing if, and when, we have left the path.[55]

This dialogue with the materials puts the child in control of the learning process. The teacher is not to usurp this role by pointing out the child's error to him. If the child cannot see his error in spite of the material's design, it means he has not sufficiently developed to do so. In time, he will be able to see it and will correct his own errors.

A block of wood, in which the child places cylinders of varying sizes in corresponding holes, is an example of control of error designed within the materials. If the cylinders are not matched in the correct holes, there will be one cylinder left over. Again, it is not the problem alone that interests the child and aids his progress:

> What interests the child is the sensation, not only of placing the objects, but of acquiring a new power of perception, enabling him to recognize the difference of dimension in the cylinders.[36]

It is not necessary to design the control of error into all the materials in such a mechanical way as the cylinder block. As the materials progress in complication, the control of error is shifted to the child himself, who has gradually developed his ability to recognize differences of dimension by sight. Control of error is also introduced at a later stage by providing the child with models with which to compare his work. He can find the answers to a certain set of mathematical problems, for example, on a chart board designed for that purpose and freely available to him.

> But, however slight the control of error may be, and in spite of the fact that this diverges more and more from an external mechanism, to rely upon the internal activities which are gradually developing, it always depends, like all the qualities of the objects, upon the fundamental reaction of the child, who accords it prolonged attention, and repeats the exercises.[37]

There are several basic rules in the use of the Montessori materials. Because they are designed for a serious purpose—the child's own development—the children are required to treat them with respect. They are handled carefully, and only after their use is understood. When the child uses an exercise, he brings all the materials necessary and arranges them carefully on a mat or rug in an organized manner. When

he is finished, he returns them to the shelf, leaving them in good order for the next child.

The child has a right not to be interrupted when using the materials, either by other children or the teacher. Here the teacher must be very alert. Praise or even a smile from her can distract the child, and children have been known to stop and put their work away with no more interference than this.

The introduction of new material to the child is called the Fundamental Lesson. The purpose of this lesson is not only to present the child with a key to the materials and their possibilities for him, but to enable the teacher to discover more about the child and his inner development. She uses the lesson to observe his reactions, and will experiment with different approaches to him. In this sense, "the lesson corresponds to an experiment." [38] Choosing the right moment to introduce a lesson to the child requires sensitivity and experience. The teacher is momentarily taking the initiative from the child in directing his growth.

> In such a delicate task, a great art must suggest the moment, and limit the intervention, in order that we shall arouse no perturbation, cause no deviation, but rather that we shall help the soul which is coming into the fullness of life, and which shall live from its own forces.[39]

Such lessons will be given almost exclusively on an individual basis. Since no two children can be exactly in the same state of development at one time, the best moment for a specific lesson will not correspond in two cases at once. Further,

> the children being free are not obligated to remain in their places quiet and ready to listen to the teacher, or to watch what she is doing [collective lessons are unlikely to be successful, and cannot be used as a primary source of introducing materials]. The collective lessons, in fact, are of very secondary importance, and have been almost abolished by us.[40]

The Fundamental Lesson is defined as

> a determinate impression of contact with the external world; it is the clear, scientific, pre-determined character of this contact which distinguishes it from the mass of indeterminate contacts which the child is continually receiving from his surroundings.[41]

In order for this contact to be of definite and clear character, the teacher must have a thorough knowledge of the materials, and have determined beforehand by conscientious practice the exact way in which she is going to present the exercise. The child responds to the precision of this presentation because it fulfills an inner need for him.

> The child not only needs something interesting to do, but also likes to be shown exactly how to do it. Precision is found to attract him deeply, and this it is that keeps him at work. From this we must infer that his attraction toward these manipulative tasks has an unconscious aim. The child has an instinct to coordinate his movements and to bring them under control.[42]

In addition to precision and orderly presentation, the characteristics of the Fundamental Lesson are brevity, simplicity, and objectivity. By using few and simple words, the teacher can more readily convey the truth that lies hidden in the materials.[43]

> The lesson must be presented in such a way that the personality of the teacher shall disappear. There shall remain in evidence only the object to which she wishes to call the attention of the child.[44]

After the teacher has presented the material in this way, she invites the child to use the material as she has done. During this first use of the material by the child, the teacher remains with him to observe his actions, taking care not to interfere with his liberty.

> The teacher shall observe whether the child interests himself in the object, how he is interested in it, for how long, etc., even noticing the expression of his face. And she must take great care not to offend the principles of liberty. For, if she provokes the child to make an unnatural effort, she will no longer know what is the spontaneous activity of the child. If, therefore, the lesson rigorously prepared in this brevity, simplicity, and truth is not understood by the child, is not accepted by him as an explanation of the object, the teacher must be warned of two things: first, not to insist by repeating the lesson; and second, not to make the child feel that he has made a mistake, or that he is not understood, because in doing so she will cause him to make an effort to understand, and will thus alter the natural state which must be used by her in making her psychological observation.[45]

If the child shows by his responses that the teacher has misjudged her moment of introduction, the teacher suggests they put the material away and use it again another day. If the child shows he was ready for the presentation, the teacher can reinforce the experience subtly through a smile or simple "that's fine," and leave the child to use the material as long as he likes.

Knowing how to use the material is only the beginning of its usefulness to the child. It is in the repetition of its use that real growth for the child—the development of his psychic nature—takes place. This repetition occurs only if the child has understood the idea the exercise represents, and if this idea corresponds to an inner need of the child.

> A mental grasp of the idea [of the material] is indispensable to the beginning of repetition. The exercise which develops life, consists in the repetition, not in the mere grasp of the idea . . . This phenomenon does not always occur. . . . In fact, repetition corresponds to a need. . . . It is necessary to offer those exercises which correspond to the need of development felt by an organism.[46]

It is, then, repetition of an exercise that the teacher will watch

for. When this phenomenon occurs, she knows she has helped to match the child's inner needs with his environmental aids for development, and she can leave him to direct his own learning.

After a period of repetitive use of an exercise in its originally understood form, yet another phenomenon appears: the child will begin to create new ways in which to use the material, often combining several different exercises that are interrelated or comparing the material to related objects in his environment. It is the child's inner development, combined with the creative possibilities hidden within the design of the materials, that makes this burst of creative activity possible. Because the child doesn't know that many of his own discoveries with the materials have been made by others before, they belong to him in a very special way and enable him to experience the thrill of discovering the unknown for himself.

Because originally the children are shown a way of using the materials so that they can develop some knowledge and skill with them, many people do not realize their potential for developing creativity within the child. They envision children going through rigid and mechanical actions with the material—continuous repetitions of what they have been shown and never leading to new activity. John Dewey viewed the Montessori method in this way, claiming that Montessori had accomplished physical freedom in the classroom but not intellectual freedom:

> But there is no freedom allowed the child to create. He is free to choose which apparatus he will use, but never to choose his own ends, never to bend a material to his own plans. For the material is limited to a fixed number of things which must be handled in a certain way.[47]

One reason educators and parents adopt this limited view of the Montessori materials is that they are not accustomed to seeing very young children work freely with truly creative

materials. Most of the toys and materials given to the child are so narrow in scope, design, and purpose that he literally can go nowhere with them. He has to attempt to make them into something else because what is there is totally unsatisfying. He needs no introduction to such materials because there is basically nothing to introduce, nothing waiting there to be discovered. In his search for something of value in them, the child takes them apart, and, because of their flimsy construction, he inadvertently destroys them. The Montessori materials, on the contrary, are carefully designed and constructed with definite purposes in mind. Their continued impact on and interest for children over a period of fifty years is sufficient testimony to their creative possibilities.

Of course, it is possible for the teacher to pre-empt the child's right to make his own discoveries with the Montessori materials, by showing him more than their basic idea, and thus rob him of the joy of creativity that should have been his. Classrooms where this consistently occurs are easily spotted through their mechanical atmosphere. The motions of life can be seen, but not living itself. One Montessori teacher describes such classrooms as "horizontal." It is misuse of the materials on the part of some teachers that accounts for this occurrence, not the method or materials themselves, which are specifically designed to encourage creativity.

After the teacher is convinced that a concept has been established in the child's mind through his use of the materials, she introduces the exact nomenclature to correspond to the new concept. She does this by a method developed by Séguin entitled the "Three Period Lesson." In the first step, the teacher simply associates the name of an object with the abstract idea the name represents, such as the concepts of rough and smooth. She is careful not to confuse the child by introducing any extraneous words or explanations.[48] In the second step, the teacher tests to see if the name is still associated in the child's mind with the object. She asks the child, "which is the red one, which the blue?" or "which is

long, which is short?" If the child does not succeed in the association, the teacher does not correct him.

> Indeed, why correct him? If the child has not succeeded in associating the name with the object, the only way in which to succeed would be to repeat both the action of the sense stimuli and the name; in other words, to repeat the lesson. But when the child has failed, we should know that he was not at that instant ready for the psychic association which we wished to provoke in him, and we must therefore choose another moment.[49]

If the child has succeeded in establishing the association desired, the teacher proceeds to the third step, asking the child to pronounce the appropriate vocabulary himself.

After vocabulary is thus established, the child is capable of communicating a generalization of ideas. He finds in his environment objects that correspond to his new knowledge: "the sky is blue" or "the flower smells sweet."

> In dealing with normal children, we must await this spontaneous investigation of the surroundings. . . . In such cases, the children experience a joy at each fresh discovery. They are conscious of a sense of dignity and satisfaction which encourages them to seek for new sensations from their environment and to make themselves spontaneous observers.[50]

The Montessori materials are roughly divided into four categories: the daily-living exercises involving the physical care of person and environment, the sensorial, the academic, and the cultural and artistic materials.

Usually, the child is introduced first to some of the exercises of daily living. This is because they involve simple and precise tasks, which the young child has already observed adults perform in his home environment and therefore wishes to imitate. This desired imitation is intellectual in nature because it is based on the child's previous observation and knowledge. Because these exercises should have their roots

in the child's immediate environment and culture, there can be no prescribed list of materials involved. The individual teacher must arrange her own exercises, using materials based on Montessori principles of beauty and simplicity, isolation of difficulty, proceeding from simple to complex, and indirect preparation. Although the exercises are skill-oriented in the sense that they involve washing a table or shining one's shoes, their purpose is not to master these tasks for their own sake. It is rather to aid the inner construction of discipline, organization, independence, and self-esteem through concentration on a precise and completed cycle of activity.

> The exercises of practical life are formative activities. They involve inspiration, repetition, and concentration on precise details. They take into account the natural impulses of special periods of childhood. Though for the moment the exercises have no merely practical aims, they are a work of adaptation to the environment. Such adaptation to the environment and efficient functioning therein is the very essence of a useful education.[51]

After inner discipline, confidence, and a conception of a full cycle of activity are initiated through the experience of daily living, the child is ready to be introduced to the sensorial materials. The aim of these materials is the education and refinement of the senses: visual, tactile, auditory, olfactory, gustatory, thermic, baric, sterognostic, and chromatic. This education is not undertaken so that the senses may function better; it is rather to assist the child in the development of his intelligence, which is dependent upon the organizing and categorizing of his sense perceptions into an inner mental order. Again, "it is exactly in the repetition of the exercises that the education of the senses consists." [52]

The academic materials are used to teach initially language, writing and reading, mathematics, geography, and science; they are a natural progression of the sensorial apparatus. They build upon the inner knowledge and construction the child has achieved through his previous manipulations

on the concrete sensorial level and guide him to ever more abstract realms. The primary aim of the academic materials is again an inner one. It is not to store a quantity of knowledge in the child, but to satisfy his innate desire for learning and the development of his natural powers.

The cultural and artistic materials deal with self-expression and the communication of ideas. Like the daily-living experiences, many of these materials are by necessity rooted in the child's culture and environment and will therefore largely be determined by the individual teacher. Montessori did, however, designate some principles and equipment that are universally applicable. She felt the first step in music is to arouse the child's love and appreciation, and he therefore must be surrounded by good music in his environment. Rhythm and metrical exercises can then be developed. Activities such as "walking on the line" prepare the motor organs for rhythmical exercises. In this Montessori exercise, the children use a line drawn on the floor as a guide while they move very slowly, march, or run in rhythm with the music. This develops their sense of balance and control of movements of their hands and feet, which are necessary for dance, as well as being a preparation for music. A single musical phrase is repeated several times, or contrasting phrases are played, helping the child to develop his sensibility to music and capacity for interpreting differing rhythms into movement.

The next step is the study of harmony and melody. For this the child begins with very simple and primitive instruments suitable to his size and potentialities. He is given brief lessons on how to use the instruments, and is then permitted to use them freely. The writing and reading of music follows. The recognition of musical sounds has previously been taught by a sensorial exercise with musical bells which are paired and arranged according to pitch. Wooden discs shaped like notes with *do*, *re*, *mi*, etc., printed on them are placed at the foot of each bell according to its sound. In this way, even

very young children are aware of notes as symbols of sounds. Montessori devised several wooden scale-boards with the movable note discs so that the children could teach themselves the notes in scale as well as treble and bass staffs. At this point, children can compose and read melodies using the note discs, and reproduce them on the bells. Older children develop musical notebooks similar to those used for writing.

Montessori gave no formal lessons in drawing or modeling. Instead, she concentrated on establishing a foundation within the child so he could be successful at them on his own initiative. The foundation for art and drawing is the same as that for writing: exercises that develop the muscles of the fingers and hands for holding pencils and making controlled movements. In addition, the development of the senses through the sensorial exercises aids the child's awareness and artistic appreciation of his environment.

> We do not teach drawing by drawing, however, but by providing the opportunity to prepare the instruments of expression. This I consider to be a real aid to free drawing, which, not being dreadful and incomprehensible, encourages the child to continue.[53]

The child's understanding of outline and color are also developed through special exercises, and the child learns how to mix paints before painting itself is introduced.

In sculpture also there are no formal lessons beyond an introduction to the materials. The child is left to work in free design. In some early Montessori schools a potter's wheel was used by the children, and diminutive bricks were baked in a furnace and used to construct walls and buildings, stimulating a beginning interest in architecture.[54]

Montessori's approach to the arts is a good example of her indirect approach to learning, which leads to increased creativity. The foundation is laid, and the child is then left free

to do his own exploring. No one tries to "teach" him from his own finished work, for interfering in completed work always presents an obstacle to the child's development.

A sixth component of the Montessori method is the development of community life. The spontaneous creation of a community of children is one of the most remarkable outcomes of the Montessori approach. This development is aided by several key elements in the Montessori method. One of these is the sense of ownership and responsibility the children develop toward the classroom environment, largely because the classroom is indeed theirs and theirs alone. Everything in it is geared to their needs—physical, intellectual, and emotional. The teacher herself has no possessions there, not even a desk or chair of adult dimensions. The children are the key source of maintaining the daily order and care of the classroom. It is they who return the materials to the shelves, who polish the tables and care for the plants and animals.

A second element in the development of community life is the responsibility the children begin to feel for each other. Because the children for the most part work independently, particularly in the early years, many people do not understand how this social concern is developed in Montessori classrooms. Many people asked Montessori, "And how will the social sentiment be developed if each child works independently?" [55] but Montessori wondered that these same people could imagine that the traditional school setting, which regiments the children's actions and prevents them from helping one another in their work or even from freely communicating with each other, could possibly be considered as fostering social concern.

> We must therefore conclude that this system of regimentation in which the children do everything at the same moment, even to visiting the lavatory, is supposed to develop the social sentiment. The society of the child is therefore the antithesis of adult society, where sociability implies a free and well-bred interchange of courtesies and mutual aid, although each individual attends to his own business.[56]

Montessori instead gave the children freedom in their social relations, limiting their actions only when they interfered with the rights of others. Through this freedom the child's natural interest in others and desire to help them grow spontaneously. Montessori found this concern and empathy for others was particularly apparent in the children's reactions to each other when someone disturbed the class. Instead of reprimanding the child who was misbehaving, they typically reacted with pity and "regarded his ill behavior as a mistake, tried to comfort him by telling him we were just as bad when we came!" [57] Again, when a child broke something, the children quickly came to help him clean up, and showed the same instinct to comfort.

A third element aiding the development of community life is the inclusion of children of differing ages in each class. The youngest class, for example, typically consists of twenty or twenty-five children of which one-third are three-year-olds, one-third four-year-olds, and one-third five-year-olds. At the end of the year, the oldest third moves on to the six–to–nine-year-old group, while another group of three-year-olds joins the three–to–six-year-old class. This means each child spends approximately three years in each class, with one-third of his companions being new each year. This emphasis on age mix is based in large part on the help older children are found to give spontaneously to the younger ones, as well as the inspiration and example they provide.

> There is a communication and harmony between the two that one seldom finds between the adult and the small child. . . . It is hard to believe how deep this atmosphere of protection and admiration becomes in practice.[58]

The older child is more sensitive to the nature and degree of help the young child needs.

> They do not help one another as we do. . . . They respect one another's efforts, and give help only when necessary. This is very illuminating because it means they respect intuitively the essential need of childhood which is not to be helped unnecessarily.[59]

Although older children are allowed to teach the younger in a Montessori classroom, it should be noted that their own liberty is not infringed upon nor progress retarded when they do so.

> People sometimes fear that if a child of five gives lessons, this will hold him back in his own progress. But, in the first place, he does not teach all the time and his freedom is respected. Secondly, teaching helps him to understand what he knows even better than before. He has to analyze and rearrange his little store of knowledge before he can pass it on. So his sacrifice does not go unrewarded.[60]

Not only did Montessori mix the ages of the children in each class; the classes themselves are ideally separated not by solid walls but by "waist-high partitions; and there is always easy access from one classroom to the next . . . one can always go for an intellectual walk." [61] Thus the younger children are inspired by exposure to the possibilities of their future, and older children can retreat temporarily to a simpler and less challenging environment when they have such a need.

Although Montessori did not emphasize the collective attention of a group of children at one time, she did feel collective education had its place as a preparation for life. "For also, in life, it sometimes happens that we must all remain seated and quiet; when, for example, we attend a concert or a lecture. And we know that even to us, as grown people, this costs no little sacrifice." [62] She did, therefore, after individual discipline had been established, assist children in accomplishing a collective order. She did this principally by helping the children to be aware of group order when it was achieved, rather than by forcing them to remain in attentive order

while receiving instructions. "To make them understand the idea, without calling their attention too forcibly to the practice, to have them assimilate a principle of collective order—that is the important thing." [63] One technique Montessori devised for reinforcing this principle of collective order is the "silence game." She began this game by drawing the children's attention to how silent and immobile she could be, and inviting them to imitate this absolute silence.

> They watch me in amazement when I stand in the middle of the room, so quietly that it is really as if "I were not." Then they strive to imitate me, and to do even better. I call attention here and there to a foot that moves, almost inadvertently. The attention of the child is called to every part of his body in an anxious eagerness to attain immobility.[64]

Sometimes whispered instructions are given to individual children to perform certain acts as quietly as possible. The delight the children show in this silence game is intriguing. They seem to enjoy the feeling of a common achievement in which each plays an integral part; moreover, "The children, after they had made the effort necessary to maintain silence, enjoyed the sensation, took pleasure in the silence itself." [65]

The Montessori teacher who is responsible for these six components of the prepared environment for the child should perhaps not be called a teacher at all. Montessori called her a "directress." This translation from the Italian still does not convey the role the Montessori teacher plays in the child's life, however, for her approach is actually an indirect rather than a direct one. It is similar to that used in therapy, where the goal is not to impose the will of one person on another, but to set free the individual's own potential for constructive self-development. In this further discussion of the Montessori teacher, it would be helpful to keep in mind this distinction between the teacher as understood in the traditional sense and the teacher of the Montessori approach.

It should also be kept in mind that, although the teacher

is here referred to in the feminine gender, male teachers, even for three-year-old children, are very much a part of Montessori tradition and an integral part of any classroom's success. In fact, one of the advantages of the team-teaching approach of Montessori is the possibility it presents for having both male and female teachers in the classroom.

It has already been said that the teacher must be a growing person, one who is involved in ever striving toward his or her own potential. In order to be involved in this process of becoming, a person must have a realistic knowledge of self and be capable of reflecting objectively on one's own capabilities and behavior. This development of self-knowledge is an essential first step toward becoming a successful Montessori teacher.

> The real preparation for education is the study of one's self. The training of the teacher who is to help life is something far more than the learning of ideas. It includes the training of character; it is a preparation of the spirit.[66]

This interior preparation requires guidance from without. "To discover defects that have become part and parcel of his [the teacher's] consciousness requires help and instruction." [67]

Montessori felt that the adult, by examining himself in this way, would begin to understand what it is that stands in the way between adult and child.

> The adult has not understood the child or the adolescent and is therefore in continual strife with him. The remedy is not that the adult should learn something intellectually, or complete a deficient culture. He must find a different starting point. The adult must find in himself the hitherto unknown error that prevents him from seeing the child as he is.[68]

Montessori believed that this error was the adult's assumption that the child is an empty vessel waiting to be filled with our

knowledge and experience rather than a being who must develop his own potential for life.

> The adult has become egocentric in relation to the child, not egotistic, but egocentric. Thus he considers everything from the standpoint of its reference to himself, and so misunderstands the child. It is this point of view that leads to a consideration of the child as an empty being, which the adult must fill by his own endeavors, as an inert and incapable being for whom everything must be done, as a being without an inner guide, whom the adult must guide step by step from without. Finally, the adult acts as though he were the child's creator, and considers good and evil in the child's actions from the standpoint of relation to himself. . . . And in adopting such an attitude, which unconsciously cancels the child's personality, the adult feels a conviction of zeal, love and sacrifice.[69]

Adults must aim to diminish their egocentric and authoritarian attitude toward the child and adopt a passive attitude in order to aid in his development. They must approach children with humility, recognizing their role as a secondary one.

> The adult must recognize that he must take second place, endeavor all he can to understand the child, and to support and help him in the development of his life. This should be the aim of mother and teacher. If the child's personality is to be helped to develop, since the child is the weaker, the adult with his stronger personality must hold himself in check, and, taking his lead from the child, feel proud if he can understand and follow him.[70]

To understand and follow the child, the Montessori teacher must develop the desire and ability to observe him.[71]

> The teacher must bring not only the capacity, but the desire to observe natural phenomena. In our system, she must become a passive, much more than an active, influence, and her passivity shall be composed of anxious scientific curiosity, and of absolute respect for the phenomenon which she wishes to

observe. The teacher must understand and feel her position of observer: the activity must lie in the phenomenon.[72]

The ability to hold observation of life in such esteem does not come readily to the adult.

This idea, that life acts of itself, and that in order to study it, to divine its secrets or to direct its activity, it is necessary to observe it and to understand it without intervening—this idea, I say, is very difficult for anyone to assimilate and to put into practice.[73]

In order to do this, "a habit . . . must be developed by practice. . . . To observe it is necessary to be 'trained.'"[74] This training for scientific observation is not a matter primarily of mechanical skill, however.

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.[75]

This spirit has three aspects. One is an interest in humanity: "The interest in humanity to which we wish to educate the teacher must be characterized by the intimate relationship between the observer and the individual to be observed."[76] Further, it is an ability to see children as individuals, each unique and unlike any other.

Now, child life is not an abstraction; it is the life of individual children. There exists only one real biological manifestation: the living individual; and toward single individuals, one by one observed, education must direct itself.[77]

Finally, it is based on the faith that the child can and will reveal himself, and that through this revelation the teacher will discover what his role must be. "From the child itself

he [the teacher] will learn how to perfect himself as an educator."[78]

It is not outward growth and activities the teacher is to watch for, but the internal coordination that these may be manifesting.

The important point is, not that the embryo grows, but that it coordinates. "Growth" comes through and by order, which also makes life possible. An embryo which grows without coordinating its internal organs is not vital. Here we have not only the impulse, but the mystery of life. The evolution of internal order is the essential condition for the realization of vital existence in a life which possesses the impulse to exist. Now the sum of the phenomena indicated in the "guide to psychological observation" actually represents the evolution of spiritual order in the child.[79]

Montessori then gives the following "guide to psychological observation" of the child in three key areas: his work, his conduct, and the development of his will and self-discipline to include voluntary obedience.

WORK—Note when a child begins to occupy himself for any length of time upon a task.

What the task is and how long he continues working at it (slowness in completing it and repetition of the same exercise).

His individual peculiarities in applying himself to particular tasks.

To what tasks he applies himself during the same day, and with how much perseverance.

If he has periods of spontaneous industry, and for how many days these periods continue.

How he manifests a desire to progress.

What tasks he chooses in their sequence, working at them steadily.

Persistence in a task in spite of stimuli in his environment which would tend to distract his attention.

If after deliberate interruption he resumes the task from which his attention was distracted.

CONDUCT—Note the state of order or disorder in the acts of the child.

His disorderly actions.

Note if changes of behavior take place during the development of the phenomena of work.

Note whether during the establishment of ordered actions there are:

crises of joy;
intervals of serenity;
manifestations of affection.

The part the child takes in the development of his companions.

OBEDIENCE—Note if the child responds to the summons when he is called.

Note if and when the child begins to take part in the work of others with an intelligent effort.

Note when obedience to a summons becomes regular.

Note when obedience to orders becomes established.

Note when the child obeys eagerly and joyously.

Note the relation of the various phenomena of obedience in their degrees

(*a*) to the development of work;
(*b*) to the changes of conduct.[80]

In addition to her role as an observer, the teacher serves as the preparer and communicator of the environment for the child. The designing and caring for the environment requires a major portion of the Montessori teacher's time and energy, reflecting the dominant role Montessori gave to it in the educative process.

> The teacher's first duty is to watch over the environment, and this takes precedence over all the rest. Its influence is indirect, but unless it be well done there will be no effective and permanent results of any kind, physical, intellectual or spiritual.[81]

She is responsible for the atmosphere and order of the classroom, the display and condition of materials, and the programming of activities, challenges, and changes of pace to meet each child's individual needs. Particular emphasis is placed

on keeping the materials in excellent order: "All the apparatus is to be kept meticulously in order, beautiful and shining, in perfect condition. Nothing may be missing, so that to the child it always seems new, complete and ready for use." [82]

The Montessori teacher also serves as the exemplar in the environment, thus inspiring the children's own development. This is an important reason for her to strive for flexibility, warmth, and love of life, as well as understanding and respect for self. She must be as physically attractive as possible, for in this way she attracts the children's attention and respect.

> The teacher also must be attractive, tidy and clean, calm and dignified [for her] appearance is the first step to gaining the child's confidence and respect. . . . So, care for one's own person must form part of the environment in which the child lives; the teacher, herself, is the most vital part of his world.[83]

Lest this idea of serving as a model for young children be interpreted as a requirement for perfection, it is important to realize that Montessori had no such expectations for her teachers. She advised them instead to be realistic about their shortcomings, knowing that in doing so they would be helping their children to develop a healthy attitude toward their own mistakes.

> It becomes apparent that everyone makes mistakes. This is one of life's realities, and to admit it is already to have taken a great step forward. If we are to tread the narrow path of truth and keep our hold upon reality, we have to agree that all of us can err; otherwise we should all be perfect. So it is well to cultivate a friendly feeling toward error, to treat it as a companion inseparable from our lives, as something having a purpose which it truly has.[84]

And again,

> errors made by adults have a certain interest, and children sympathize with them, but in a wholly detached way. It be-

comes for them one of the natural aspects of life, and the fact that we can all make mistakes stirs a deep feeling of affection in their hearts; it is one more reason for the union between mother and child. Mistakes bring us closer and make us better friends. Fraternity is born more easily on the road of error than on that of perfection.[85]

The teacher is also the link that puts the child in touch with the environment. The child is totally dependent on this help from the teacher: "The child's one hope lies in his interpreter." [86] In particular, he cannot gain full benefit from the learning material in the environment without the teacher's inspiration and guidance.

I felt this, intuitively, and believed that not the didactic material, but my voice which called to them, awakened the children, and encouraged them to use the didactic material, and through it, to educate themselves. . . . Without such inspiration [encouragement, comfort, love, and respect], the most perfect external stimulus may pass unobserved.[87]

The role of communicator is a delicate one, and the teacher must be careful not to overdo her part.

There is a period of life extraordinarily open to suggestion—the period of infancy—when consciousness is in process of formation and sensibility toward external factors is in a creative state. . . . We noticed in our schools that if in showing a child how to do anything we did so with too much enthusiasm, or performed the movements with too much energy or excessive accuracy, we quenched the child's capacity of judging and acting according to his own personality.[88]

Montessori teachers function as a team, with two teachers per class, usually an experienced teacher and an assistant. This team approach gives the child an option as to which adult he prefers to relate to at any given time; but more important it means that the teachers are not operating in a vacuum,

without benefit of feedback from another adult. At the end of each day, they discuss the progress of each child and exchange ideas and observations.

The Montessori teacher must give a good deal of her time to family and community relations. Montessori viewed the child as a member of a family—not as an isolated individual—and one whose most formative life experiences take place outside the classroom. She had no illusions that, without close communication and cooperation with the parents, the school hours, even though they lasted a full day, could have a transforming effect for the child. The regulations posted on the walls for the first Casa dei Bambini demonstrate clearly how seriously Montessori considered this matter. "The mothers are obliged to send their children to the 'Children's House' clean, and to cooperate with the Directress in the educational work." [89] If the parents did not cooperate, their child was returned to them.

If the child shows through its conversation that the educational work of the school is being undermined by the attitude taken in his home, he will be sent back to his parents, to teach them thus how to take advantage of their good opportunities. . . . In other words, the parents must learn to deserve the benefit of having within the house the great advantage of a school for their little ones.[90]

Each mother was to

go at least once a week to confer with the directress, giving an account of her child, and accepting any helpful advice which the directress may be able to give. . . . The directress is always at the disposition of the mothers, and her life, as a cultured and educated person, is a constant example to the inhabitants of the house, for she is obliged to live in the tenement and to be therefore a cohabitant with the families of all her pupils. This is a fact of immense importance.[91]

This close contact, and the fact they paid part of its

expenses, helped the parents feel a special proprietorship toward the school. The classroom was a "property of the collectivity . . . maintained by a portion of the rent they pay." The mothers were permitted to "go at any hour of the day to watch, to admire, or to meditate upon the life there." [92] By thus establishing an open relationship with the home environment, Montessori hoped to influence the social background of future generations.

> Man is . . . a social product, and the social environment of individuals in the process of education is the home. Scientific pedagogy will seek in vain to better the new generation if it does not succeed in influencing also the environment within which this new generation grows! I believe . . . we have solved the problem of being able to modify directly the environment of the new generation.[93]

In addition to maintaining as close a contact as possible with the children's parents and family life, the Montessori teacher has an important role to play as an interpreter of Montessori aims to the community at large. There is a great demand to know more about Montessori education on the part of parents and teachers, and Montessori teachers must be capable and willing to meet their requests for lectures, demonstrations, and visits. They do this as a part of their commitment to the child and his education, a commitment that extends beyond their own classrooms.

What is a classroom based on the freedom and structure of a Montessori environment, where the teachers follow the indirect approach of the Montessori method, like? It is a living place, full of children in search of themselves and their world. There is a feeling of total involvement as children explore and discover, sometimes with materials on rugs on the floor or on tables; sometimes alone, sometimes together. There is much movement, self-initiated socializing, and casual interchange between children and between child and teacher.

The teacher is hard to find. There is no teacher's desk, nor anything else in the room to cast her in the role of the "captain at the helm," as in many traditional classrooms. She is likely to be on a rug on the floor, or at a child-sized table, giving full attention to one individual child at a time. Careful observation of her will show she is constantly on the move in a quiet way, as she goes from child to child and seeks to be alert to the needs and actions of all.

There is no formal schedule chopping the day into small pieces; there is only the obligation to begin and end the day at the regular times, or, if the class is housed in a larger school, to comply with the demands of this larger environment. Actually, close observation will show that the children set themselves a kind of flexible schedule, varying the choice and pace of their activities. Contrary to traditional thought, they do not choose the hardest work when they first arrive and are considered "freshest." Instead, they consistently choose easy work at first, and gradually work up to a very challenging endeavor—"the great work" of the day, as Montessori called it—later in the morning.

However, it takes careful preparation and time for a beginning Montessori class to reach the optimal functioning of the class described, and parents and teachers alike are discouraged if they expect such a class of twenty or thirty children to appear in full bloom immediately. Time and experience are necessary before the children can develop the inner discipline required to utilize the freedom of the Montessori classroom effectively. In an already functioning class, where two-thirds of the children have had this opportunity in the previous year, the younger third entering the class for the first time readily develop such discipline through imitation of the older ones and special attention from the teacher, particularly when they are admitted a few at a time. When a class is first begun, there is no established community of children, and the teacher alone must "show the way to discipline." [94]

> If discipline had already arrived our work would hardly be needed; the child's instinct would be a safe enough guide enabling him to deal with every difficulty. But the child of three, when he first comes to school, is a fighter on the verge of being vanquished; he has already adopted a defensive attitude which masks his deeper energies. The higher energies, which could guide him to a disciplined peace and a divine wisdom, are asleep.[95]

To the extent that this is true of individual children, the teacher

> must call to them, wake them up, by her voice and thought. . . . Before she draws aside to leave the children free, she watches and directs them for some time, preparing them in a negative sense, that is to say, by eliminating their uncontrolled movements.[96]

She does this by introducing a series of preparatory exercises that help the children to concentrate on reality and control of movement. They may consist of arranging chairs and tables in proper places without making any noise, moving about the room on tiptoe, whispering instructions to carry out, or practicing total silence. It is necessary to charm the children in order to carry out these exercises successfully. "Sometimes I use a word easily misunderstood: the teacher must be seductive, she must entice the children." [97]

Any child who cannot be reached in this way must be dealt with more directly.

> If at this stage there is some child who persistently annoys the others, the most practical thing to do is to interrupt him. It is true that we have said, and repeated often enough, that when a child is absorbed in his work, one must refrain from interfering, so as not to interrupt his cycle of activity or prevent its free expansion; nevertheless, the right technique now is just the opposite; it is to break the flow of the disturbing activity. The interruption may take the form of any kind of exclamation, or

> in showing a special and affectionate interest in the troublesome child.[98]

Gradually some of the exercises of daily living are introduced, and eventually, little by little, the didactic materials. A period of apparent order follows, but at first

> the children keep going from one thing to another. They do each thing once; then they go and fetch something else. . . . The appearance of discipline which may be obtained is actually very fragile, and the teacher, who is constantly warding off a disorder which she feels to be "in the air," is kept in a state of tension.[99]

At this point the teacher must both supervise the children and also begin individual lessons showing the precise use of the materials, as described earlier in the Fundamental Lesson, but she must be careful to keep watch over the activities of the other children as well. Now it is that the children begin, one by one, to show the phenomena of repetition and concentration that indicates self-discipline has begun. The teacher

> sees the children becoming ever more independent in choosing their work and in the richness of their powers of expression. Sometimes their progress seems miraculous. . . . This, however, is the moment in which the child has the greatest need of her authority.[100]

After completing something important to them, "instinct leads [the children] to submit their work to an external authority so as to be sure they are following the right path." [101]

A last stage is accomplished when the child no longer seeks the approval of authority after each step.

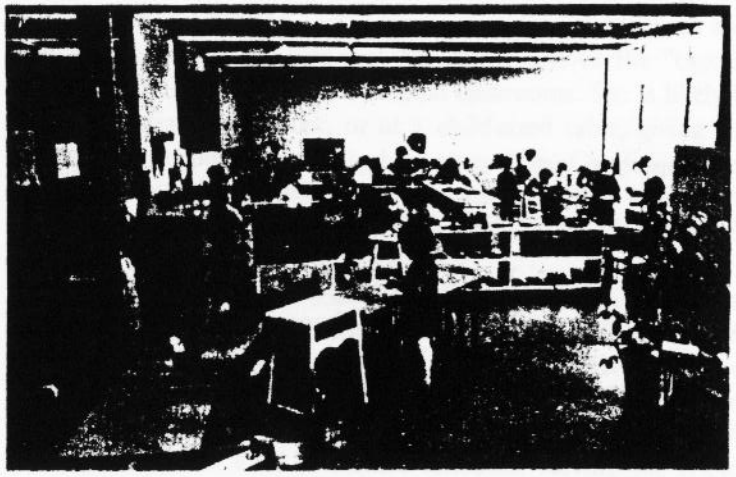
> He will go on piling up finished work of which the others know nothing, obeying merely the need to produce and perfect the fruits of his industry. What interests him is finishing his

> work, not to have it admired, nor to treasure it up as his own property.[102]

It is now that inner discipline has been firmly established, and the teacher must be most careful not to interfere with the child in any way. "Praise, help, or even a look, may be enough to interrupt him, or destroy the activity. It seems a strange thing to say, but this can happen even if the child merely becomes aware of being watched." [103] Even when several children wish to use the same materials at once, the teacher is not to interfere unless asked.

> But even to solve these problems, one should not interfere unless asked; the children will solve them by themselves. . . . The teacher's skill in not interfering comes with practice, like everything else, but it never comes easily [for] even to help can be a source of pride.[104]

In such a classroom, the real education of the children can begin, for they have arrived at self-discipline, and have thus achieved freedom for their own development. This is the goal toward which all Montessori philosophy and method are aimed, and in which Montessori found such hope for mankind.



1. "by spring of the first year, the children were happy and working hard"

2. "mental development *must* be connected with movement" [the brown stair]