

# Optimal Developmental Outcomes

## The Social, Moral, Cognitive, and Emotional Dimensions of a Montessori Education

by  
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*The human personality is essentially one during the successive stages of its development. Yet, whatever human being we consider, and at whatever age, whether children in the primary school, adolescents, youths or adults, all start by being children, all then grow from childhood to manhood or womanhood without changing the unity of their persons. If the human personality is one at all stages of its development we must conceive of a principle of education which has regard to all stages.*

Maria Montessori, *The Formation of Man*

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# Introduction

by Annette M. Haines

Mario Montessori used to say that one of the differences between animals and humans is that the animal is a body with just enough psyche to serve it, whereas humans have “a puny body—but a great spirit”:

And that spirit had a life and needs of its own. For it was not only feelings of physical hunger or cold that drove Man on. The animals are at rest once their needs have been appeased. In Man hunger and cold were sources of activity for the mind as well as for the body. Once these had been appeased the body was satisfied, not so the mind. To the mind they gave suggestions, inspiration, problems. And these are for the mind what cold and hunger are for the body. (20)

Because they needed to satisfy both physical and spiritual cravings, humans evolved certain tendencies. To satisfy their hunger or solve the immediately pressing problem of cold, they must have explored their surroundings, oriented themselves to their environment, and ordered their perceptions into classes. Thus, lower or physiological needs stimulated more than a simple physiological response in human beings. Unlike the lower animals, humans could imagine and dream, reason and plan. Simple needs evoked not only exploration, orientation, ordering, and imagining, but also tendencies to work, create, perfect, embellish, and so forth. These tendencies have allowed the human species to engage, over the ages, in an ever progressive and cumulative endeavor to create *meaning* (Csikszentmihalyi, *Flow* 214-240).

Each individual seems to recapitulate, in his or her ontogenesis, this very human search for meaning. This development is driven by the *life force*—an “inherited code that unfolds (and causes the individual to develop) along a largely predetermined path or sequence” (Kegan 43). The “I want” of the preschooler evolves into a universal kind of “Faustian dissatisfaction” (Csikszentmihalyi, *The Evolving Self* 31), which drives people to seek new experiences and pursue new opportunities. The psychological manifestations of *meaning-making* change over a life span in the direction of increasing complexity (Csikszentmihalyi & Rathunde) and are dependent on an evolving relationship between the organism and its environment.

This relationship is developed and maintained through activity in the environment, requiring physical, cognitive, affective, and social engagement. Such activity begins at birth and evolves as an adaptive process driving the efforts of the organism. It culminates (by the age of three) in the emergence of an autonomous, enduring self—a self who can store as well as communicate memories, feelings, and perceptions. During the school years the face of the child’s activity changes, expressing itself in increased intellectual industry, competence, social and moral interest, and self-sufficiency. In early adolescence, the self becomes peer-oriented, ideological, and conversational, finding special nurturance in a cooperative community of peers.

For optimal development, each successive educational environment would have to meet the needs of the growing individual at every stage. A *prepared environment* would be less a school than an ecosystem supporting the evolution of the psychological individual, an environment to which the self could *attach*, sustained by optimal conditions of support, until it was ready to let go and be born into the next stage of development.

If we had environments that met the changing needs of the growing individual, environments that supported the evolution of the human being throughout the stages or planes of development, what would result? Dr. Maria Montessori, throughout her lifetime and in a prodigious volume of written work, outlined what she believed could be the consequence of such an education. Some of her ideas came from her actual observation of children in what she called *prepared environments*. Some of her ideas (particularly in regard to the adolescent) were clearly hypothetical. Regardless, she believed these ideas provided what we today might call a more *positive psychology*. They seemed to be “the bright new hope for mankind. Not reconstruction, but help for the constructive work that the human soul is called to do, and to bring to fruition; a work of formation which brings out the immense potentialities with which children ... are endowed” (17).

The following is an attempt to create a framework of optimal psychological outcomes for human development based on the ideas of Maria Montessori. The initial stimulus for the study came from a November 1999 meeting in Minneapolis between Mihaly Csikszentmihalyi, David Kahn, Kay Baker, Elizabeth Hall, David Shernoff, and myself. What were the goals, the objectives, of a Montessori education? What might the outcomes be? Remarkably, although the Montessori method was almost one hundred years old, with over two thousand public and private Montessori schools in the United States alone, such questions had never really been asked, much less answered.

Kay Baker, director of the Washington Montessori Institute at Loyola College in Maryland (Baltimore), agreed to explore the literature and extract psychological outcomes that would apply to the school-age child (from six to twelve years). David Kahn, at the time himself profoundly and personally engaged in an adolescent Erdkinder project, agreed to study what Montessori and others had written regarding environments for the adolescent (ages twelve to eighteen) that would provide optimal outcomes. I agreed to review the massive pile of Montessori books and articles on early childhood (birth to age six).

Taken together, we find the possibility of an educational continuum that extends naturally along a developmental path from birth to adulthood. It is hoped that the delineation of this path within the three distinct developmental stages will enable educators to look at students and schools from a new perspective.

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## References

- Csikszentmihalyi, Mihaly. *Flow: The Psychology of Optimal Experience*. New York: Harper & Row, 1990.
- Csikszentmihalyi, Mihaly. *The Evolving Self: A Psychology for the Third Millennium*. New York: HarperCollins, 1993.
- Csikszentmihalyi, Mihaly; & Kevin Rathunde. "The Development of the Person: An Experiential Perspective on the Ontogenesis of Psychological Complexity." *Handbook of Child Psychology*. Ed. William Damon. 5<sup>th</sup> ed. Vol. 1. New York: Wiley, 1998.
- Montessori, Mario. *The Human Tendencies and Montessori Education*. Amsterdam: Association Montessori Internationale, 1966.
- Kegan, Robert. *The Evolving Self: Problem and Process in Human Development*. Cambridge: Harvard University Press, 1982.
- Montessori, Maria. *The Absorbent Mind*. 1949. Trans. Claude A. Claremont. New York: Delta, 1967.

# The First Plane of Development (0-6 years)

by Annette M. Haines

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## Introduction

If intelligence is what distinguishes the human species, certainly the most important act of human development would be the creation of intelligence. In the first years, each human child creates his or her own unique intelligence (Stephenson, "Secret" 14). The construction of mind is achieved through an active interchange between the environment and the child's tendencies to explore, reason, imagine, and create. The interplay between such human tendencies and the environment directs the formation of the personality (Osterkorn, "Personality Substitution" 5-6).

Maria Montessori operationalized human development and called it *work*. *Work*, she said, was a *vital instinct* whereby human beings organized their personalities and optimized their potentialities: "Man builds himself through working, working with his hands, but using his hands as the instruments of his ego, the organ of his individual mind and will, which shapes its own existence face to face with its environment" (*Secret* 200).

The construction of social, moral, cognitive, and emotional intelligence occurs when this inherent tendency to work is allowed to manifest itself in the environment. Montessori called this phenomenon "normalisation through work" (*Secret* 199). Whether she was talking about self-discipline or character formation or self-concept, etc., positive outcomes *always* were dependent on and awaited the phenomenon of *concentration* on a "piece of work freely chosen" (Haines, "Universal Interest Levels" 12). Personality formation has social, moral, intellectual, creative, and artistic aspects, but all are inextricably connected.

Unraveling the threads of Montessori's thought along social, moral, cognitive, and emotional lines is difficult because of the integrated nature of her thought. She understood the human being as a psychosomatic unity and believed the meaning of any phenomenon could only be understood "from examining the meaningful whole of which it forms a part" (Mario M. Montessori, Jr. 40). Her nineteenth-century prose is more poetic than analytic and continually confounds attempts to tease apart the strands. The following, however, endeavors to define the developmental outcomes Montessori believed were possible if children could live and *work* in psychologically supportive environments from birth to six years of age.

## Social Development

### ***Birth to Three Years***

For the self to be realized—to be made real—means to be born into the world. In order to be in the world, one's world-view must shape itself according to the shape of that world. The logical process of structuring the personality must orient that personality to the world of human beings.

From the moment of birth, the infant's first "work" is that of personality formation or individuation. The personality can be developed only by means of social relationships and experiences (Maria Montessori, "Child's Instinct to Work" 7). Individuation takes place within a social context and is the first step toward social development.

According to Montessori, "An isolated individual cannot develop his individuality.... He must put himself in relationship with his environment and within reach of the events and the life of his times" ("Child's Instinct to Work" 7).

The baby's first social environment is the mother. Maternal care is absolutely necessary not only for the child to survive physically but also to provide the mother-infant bond, which contains within it the possibility of all future

social life. This relationship provides the information that life is nice, that the environment is responsive, and that one can trust this new place (Montanaro 14). Maternal caresses are critical in orienting the neonate to the world, aiding not only the physical but also the psychological processes of adaptation. The mother's embrace sustains the vital energy of the infant, energy that will be needed later on when the little child has to orient and adapt to the "complicated world" out there (Montessori, *Formation* 71).

Infants are born with drives that urge them to relate to others and designed so that others relate to them. The first impulses to root and suck, to grasp and smile, to gaze and cuddle in the mother's arms, are precisely those needed to establish and maintain closeness. In sequential and characteristic patterns of touch and eye-to-eye contact, the mother and newborn reconfirm their union. And in the first days, mother and child are entwined in this synchronized symbiosis whereby the infant comes to understand the world as a comfortable and positive place (Haines, "Nonverbal Lessons" 10-11). It is in the context of this relationship with the mother that the infant develops a sense of self. Attachment, the forming of affectional ties to one significant person, binds the child and adult together in space and time.

At birth all babies are pretty much alike; babies everywhere babble at six months, walk around twelve months, and talk around two years. Human development thus unfolds "in the same way and according to the same laws" (Montessori, *Absorbent Mind* 74). Yet each human being is destined to become unique and different, and much of that uniqueness, that difference, is extracted from the specific set of circumstances, the particular "place and time" (Montessori, *Discovery* 64) encountered in the first months and years of life.

For such social adaptation to occur, it is necessary for the infant to be brought out from the nursery and into the life of the family. From the mother's lap the baby can view its new domain. Here is the information needed for the acquisition of spoken language, modes of behavior, and patterns of the culture. Customs, social attitudes and values, cultural habits, and ethnic idiosyncrasies all act to form the shape of the evolving personality. In the period of infancy, the mind takes in such impressions "like a sponge" (Montessori, *Reconstruction* 11).

Thus, the apparent passivity of the infant belies the profound work in which the infant is actually engaged. The baby, as the "personal constructor" of its own mental and physical functions, is creating a "new being" (Montessori, *Secret* 30), a new soul in human form. According to Montessori, the elements of each acquisition — spoken language, motor coordination, sensory integration, etc. — are constructed separately. When all is ready, there is an integration of the personality, creating the "psychic unity of the individual" (*Absorbent Mind* 51). The physical inertia of the newborn simply "prepares for the surprises of individuality" (*Secret* 30) because by three, the little child has already laid down the basic foundations of his or her personality (Montessori, *Discovery* 7). The three-year-old has done its first "work" in relation to the environment and is now ready to experience an "ever-widening circle of adults and other children" (Waltuch 20).

### **Three to Six Years**

If children have learned to trust, by three years of age they will be able to employ all their previously developed skills and move out into the world, cutting those same bonds, those same "oedipal apron strings" (Schiamberg 48) they have worked to tie so tightly. According to Montessori's plan, around the age of two and a half or three, children would enter a *Casa dei Bambini* or Children's House. They "need the society of other children at this age," she told students in a 1946 teacher-training course. "They play together in the street, in the farmyard or in the garden. This," she said, "is the age when we begin our school" (Unpublished lecture 79).

A good Montessori class provides a fairly large group of children (Montessori, *Absorbent Mind* 225) of "very different backgrounds" (Montessori, *Discovery* 319) with an expanded social environment within the confines of a highly structured and stable physical setting. "Children of different ages from three to six ... all live together as members of a family" (82). This mixed-age group fosters self-discipline, independence, and responsibility towards the environment and the other members of the community (Joosten-Chotzen 32).

The activities available to the children in a Montessori classroom are those which Montessori described as "purposive" (*Absorbent Mind* 146) and which can be performed by the children for both selfish and social ends. When children work in this way they increase their level of independence (Montessori, *Discovery* 57) at the same time as they come to realize that their action benefits others:

We see a child buttoning the clothes of his younger fellow, tying his shoestrings or quickly cleaning the ground if someone happens to upset the soup. If [a child] washes the dishes he cleans those which others have soiled, and when he lays the table he works for the benefit of many others who have not partaken the work with him. And in spite of this he does not consider this work done in service of others as a supplementary effort deserving of praise. No, it is the effort itself, which is for him the most sought after

prize.... In this way the part of the exterior activity of the child which is aimed toward social purposes is developed. (Montessori, *The Child* 15)

Moreover, some unexpected tastes emerge from the social life of a Montessori classroom. The children come to prefer one another's company to dolls and the "real" utensils to toys (Montessori, *Absorbent Mind* 169). While working with real objects such as "real brushes for cleaning, and real carpets to sweep" (Montessori, *Discovery* 92), children attain real skills that allow them to participate more fully in life at home as well as at school.

Along with such practical lessons as cleaning and sweeping, the children in a Montessori class will learn actual prosocial behaviors. The exercises of Grace and Courtesy, as the name implies, help children control their bodies and move more gracefully while giving them the courtesies of social life, the "pleases" and "thank yous" that denote "distinguished manners" (Montessori, *Spontaneous Activity* 172). "If one teaches them," Montessori explained, young children "are interested to know how to greet, how to excuse themselves when they pass in front of other people, etc." ("The Child and Society" 2). The lessons of Grace and Courtesy equip them with the ability to perform "those actions which have eased the wheels of human congress" (Stephenson, "First Plane" 19). Through these activities, the children develop a true "social feeling" (Montessori, *Discovery* 95).

The richness of the social atmosphere in a Montessori classroom is not obvious to the casual observer. During the period from three to six, little children tend to work side by side rather than together. Nature has provided this time of solitary or parallel play because, according to Montessori, "the first essential of the child's development," is not really *play* at all! Instead, the first essential of the child's development is "*concentration*" (*Absorbent Mind* 222). Concentration, she says, lays the basis for the development of an individual's character and subsequent social behavior. Concentration is always solitary, even in the midst of a crowd, and there is no real achievement without it. To help the child concentrate, Montessori designed an environment replete with things to concentrate on.

Montessori believed that when children concentrated, their personalities were changed. Timid children lost their shyness and fearful children became at ease (*Secret* 137). After completing a cycle of activity, children seem refreshed and satisfied. They demonstrate "higher social impulses" (Montessori, *Spontaneous Activity* 98). They walk calmly about, quietly watch other children work without disturbing them, or come to the teacher to share some little confidence or story, almost as if they desired to reestablish the connection with other people after having been *absent*.

The work of the children in a Montessori class thus has a purpose far beyond simple academic or pragmatic objectives. According to Montessori, "First glimmerings of *discipline* have their origin in work. At a certain moment a child becomes intensely interested in some task. This is shown by the expression of intense concentration and his constancy in carrying out the ... exercise" (*Spontaneous Activity* 174, emphasis added).

When children can bring their impulses under control and act intentionally to achieve some external goal, a profound personality change occurs. According to Jon Osterkorn, they are increasingly empathetic. They begin to respect the work of others. They can now wait patiently for an object whereas before they might have snatched it from another child. They begin to walk around the room without knocking against tables or other children, without "stamping on their feet [or] overturning the table." The changes brought about through individual, concentrated work promote healthy "habits of social life" ("Socialization" 16).

Alongside the cubes, prisms, and puzzles, the little tables and chairs, the pretty books and plants, etc., a Montessori environment includes other, less tangible but equally important elements. These are *ground rules*, and they are designed to enhance the possibilities for socialization. Jon Osterkorn has defined socialization as "the process by which the individual acquires the knowledge and dispositions that enable him to participate as an effective member of a social group and a given social order" ("Socialization" 12). The ground work for socialization already having been done in the first period, the *Casa* now offers the child new opportunities to "participate as effective members of a social group." A few simple rules act to harmonize the children's combination of activities:

- ? Children choose their own activities after they have been introduced to a certain material or procedure.
- ? Since there is only one specimen of each object, the child must wait for it to be put back on the shelf or stool before taking it for him- or herself.
- ? Children may work with a material or activity for as long or as short a period of time as they wish.
- ? Each material must be returned to its appropriate place on the shelf in such a way that it is "ready for the next person."
- ? The children are free to move and talk, but they may not disturb another child who is working.
- ? The children are allowed to solve their problems by themselves.

In the first Children's Houses in Rome, Dr. Montessori was surprised when the young children did not spontaneously assist other children in difficulty. Rather, they held back—as if remembering their own recent labors and subsequent triumphs. Little children understand that everyone has to figure things out for themselves. On the other hand, if there is an accident, a time when help is really needed, they immediately rush to assist (“Moral and Social Education” 17). In a Montessori community of free and active children, such social sentiments emerge spontaneously (Montessori, *Spontaneous Activity* 151). The older ones help the younger, while the younger look to the older ones as models (Waltuch 20). The children learn to take turns, to share materials, and to offer real help when needed. They know that the classroom belongs to all of them (Waltuch 20) and assume responsibility for its care; they also recognize each other as individuals and “have a reciprocal feeling for each other's worth” (Montessori, *Absorbent Mind* 227).

The Montessori teacher uses no rewards or punishments. “No one,” said Montessori, “who has ever done anything great or successful has ever done it simply because he was attracted by what we call a ‘reward’ or by the fear of what we call punishment.... Every victory and every advance in human progress comes from some inner compulsion” (*Discovery* 15).

A non-competitive and free atmosphere is needed for important social impulses to emanate. Through a daily give-and-take, Montessori says, a kind of cohesion grows—a cementing of the class by affection (*Absorbent Mind* 232). An evident sense of community evolves, a social microcosm united more by the unconscious absorbent mind than by conscious effort.

According to Montessori, society goes through an *embryonic phase* (*Absorbent Mind* 232) in the period from three to six. This can be observed in the children when “little by little, they become aware of forming a community, which behaves as such. They begin to feel a part of a group to which their activity contributes. They begin to take an interest in this community and work on it profoundly” (Montessori, *Discovery* 15).

Once they have reached this level, the children no longer act thoughtlessly but put the group first and try to succeed for its benefit. “This unity born among the children, which is produced by a spontaneous need, directed by an unconscious power, and vitalized by a social spirit,” is what Montessori called *cohesion in the social unit* (*Discovery* 232-233).

Children at this age are driven to relate to their environment, events, and times. Their personalities continue to develop and are enhanced by the social relationships they form in daily life together (Montessori, “Child's Instinct to Work” 7). New bonds are built, which build on the first bonds with the mother and family but now extend to a larger family of peers.

### **Summary of Social Development**

Social outcomes of the first phase of life (birth to three) include:

- ? individuation, the “birth” of the ego or self
- ? trust in people and the environment
- ? independence, achieved by being able to walk, talk, eat table food, use the toilet, etc.
- ? social adaptation

Acquisition of spoken language, including dialect and gesture, ethnic idiosyncrasies, cultural values, social attitudes and behaviors, etc. are all *absorbed* by the infant effortlessly from experiences within society's first representative, the family. Montessori called this *incarnation* (*Absorbent Mind* 25) and suggested that it serves an adaptive purpose.

In the next phase (three to six), the aforementioned outcomes are further developed and enhanced by the child's participation in the expanded social atmosphere of the *Casa dei Bambini*. Furthermore, the child in a Montessori primary class acquires:

- ? self-discipline
- ? increased independence derived from new skills and competencies
- ? knowledge of appropriate and specific prosocial behaviors
- ? patience and the ability to share
- ? respect for others

? a willingness to abide by rules to create social order

Thus, a kind of *social intelligence* is created which will await further elaboration and expansion in the next plane of development.

## Moral Development

### *Birth to Three Years*

It was Montessori's deep belief that each child represents a new hope and promise. Each tiny baby entering the world is endowed with an "animating human spirit" driven to take human form "in order to act, to express itself in the world" (*Secret* 31). This human spirit is naturally "good" and "tends toward wholesome growth" (Renilde Montessori 10). But a little baby's spirit needs care and nourishment —as much as its physical body needs food and attention (Mario M. Montessori, "Dr. Maria Montessori" 55).

Infants-in-arms cannot be influenced "either by example or external pressure" (Maria Montessori, *Absorbent Mind* 194). They simply assimilate sensorial impressions: patterns of color, smell, sound, texture, etc. When they absorb the "customs, morals and religion of a people," Montessori suggested, they take in a pattern. Once the pattern is fixed, it remains a permanent part of the personality -in-formation (189).

A young mother cannot leave her nursing baby, so when she goes, for instance, to church, she brings the infant along. Later in life, the individual is drawn to the Sunday morning liturgy. It contains attitudes, values, and moral sentiments, along with the sounds, smells, and imagery extracted long ago from the environment.

The conflict comes when the baby grows a little older. Once babies learn to crawl, they no longer remain in one place. Once they begin to walk they will not stay put. Once they begin to chatter, they will not be quiet. They need to exercise newly formed powers. Their behavior is not good or bad. "The small child has no sense of right and wrong," said Montessori. "He lives outside our notions of morality" (*Absorbent Mind* 194) and is obedient only to the "law which decrees that development comes from environmental experience" (89).

Yet suddenly the natural energy of these little children —as they begin to walk and touch things—becomes threatening to adults: "Grown-ups, no matter how much they love a child, feel an irresistible instinct to defend themselves from him. It is an unconscious feeling of fear of disturbance by an unreasoning creature, combined with a proprietary sense where objects are concerned that might be dirtied or spoiled" (Montessori, *Secret* 70).

Adults are disturbed by finding a "force of life ... in the process of evolution" (Montessori, *Absorbent Mind* 252) in their midst. The psychological state of the grown-up is so different from that of the toddler that it is almost impossible for the two to live together unless necessary adjustments are made (Montessori, *Secret* 70). The adults want to protect their possessions, their life style. The toddler, however, is compelled by nature: "When we gaze at the stars, twinkling in the sky, ever faithfully following their orbit, so steadfast in their position, do we think: 'Oh! How good the stars are!' No, we only say, 'The stars obey the laws that govern the universe'" (Montessori, *Formation* 32).

Montessori believed there is *order* in nature and that order manifests itself in the behavior of young children free to follow what we might call their own orbit. When obstacles are put in the way of this life force, its energy becomes misshapen and children's behavior *disordered*. She used the word "naughty" to describe behavior that was infantile as opposed to behavior that was immoral or wrong. Even so, "Children are not naughty by nature," she said in an unpublished 1946 lecture. "It is the wrong treatment they receive that makes them naughty" (61). Mental starvation causes naughtiness (62). "Lack of activity causes naughtiness" (62). The child does not mean to be bad (33). Disorder is not evil and order does not mean goodness. But *ordered behavior*, to her way of thinking, is "an indispensable way to attain" goodness (33).

Everyone knows young children are innocent, naïve, and gullible: Small children, Montessori said, will accept and believe anything (*Discovery* 298). They understand a behavior as "naughty" if it causes them to be scolded or punished. They have no moral conscience in the sense of being able to distinguish between good and evil. Nor do they have interest in such issues because they are "too immature" (298) to "understand or assimilate" abstract notions such as "right" and "wrong."

If the environment is warm and safe, however, and if adults deal "sweetly and kindly" with them (Montessori, *Discovery* 298), even the tiniest babies can develop a feeling for what is *good*.

## Three to Six Years

Montessori considered the period before six crucial for the development of “character.” (*Absorbent Mind* 194). When she spoke of character, she was not simply talking about attributes or traits; she understood the term in the “old-fashioned” sense—as moral strength or moral fiber. Morality, she said, would not emerge suddenly in the adult through sermons or admonitions. “Childhood and years of growth were needed to create this moral power” (“Child and Society” 4).

When little children enter a *Casa dei Bambini* around three years of age, they often move about a great deal. They touch everything and even throw themselves on the ground. Montessori understood the sensorimotor nature of children’s learning and viewed this behavior simply as a sign that the children were alive and growing. Correction is possible, she said, only by “expansion,” by giving “space.” Such children can only be helped “by opening up the means for the expansion of the personality. Wider interests than those observed in another individual at our side must be aroused. Only the poor quarrel over a piece of bread. The rich are attracted by the possibilities offered to them by the world” (*Formation* 36). It is not a moral question, but “a question of *life*” (Montessori, *Spontaneous Activity* 299). Misbehavior is “pathological” and comes from misfortune, trauma, or mishap. The naughty child should excite our “compassion” and needs help rather than punishment ( Montessori, *Absorbent Mind* 230). Disordered behavior in young children is a symptom of “an inner disturbance ... [an] unsatisfied need, a state of tension” (Montessori, *Secret* 94). It indicates that the individuality is “broken up” and the child is “at the mercy of external objects, like a ship without a rudder” (94).

Montessori believed one of the main reasons for the spread of her schools was

the visible disappearance of these [character] defects in children as soon as they found themselves in a place where active experience upon their surroundings was permitted, and where free exercise of their powers could nourish their minds. Surrounded by interesting things to do, they could repeat the exercises at will, and went from one spell of concentration to another. Once the children had reached this stage, and could work and focus their minds on something of real interest to them, their defects disappeared. The disorderly became orderly, the passive became active, and the troublesome disturbing child became a help in the classroom. (*Absorbent Mind* 199)

In a Montessori classroom “naughty” children are given something to do, something to interest them, focus their energies, and expand their personalities. Especially if children are able to work with their hands, they develop stronger character (Montessori, *Absorbent Mind* 152). When children *work*, they

- ? demonstrate patience and obedience (Montessori, *Absorbent Mind* 224, 257),
- ? are gentle, polite, and affectionate (Montessori, *Spontaneous Activity* 71),
- ? have better mental balance (*Absorbent Mind* 15),
- ? are content in “doing good” (Montessori, *Discovery* 317), and
- ? are respectful of others (*Discovery* 93).

Concentration also brings about perseverance. When children repeat an activity that interests them, it “produces a kind of consolidation” and builds the ability to “carry out ... projects they have undertaken” (Montessori, *Absorbent Mind* 218). Work becomes a “habitual attitude” and children begin to prefer it to play ( Montessori, *Spontaneous Activity* 105). The intensely formative period of early childhood provides a rich ground for the formation of character.

“To ‘build the house’ which morality will inhabit, ” Montessori writes in *Spontaneous Activity in Education*, “some mastery of the body is ... necessary.” This occurs when children, in a process of self -education, “put in motion complex internal activities of comparison and judgement ” (194). When children are put on a constructive path, a path that allows active construction of their mental life, everything improves: Digestion gets better, nightmares disappear, “greediness subside[s]” (Montessori, *Absorbent Mind* 200). Montessori believed children who concentrate also become disciplined. Discipline, from a Montessori perspective, is an outward manifestation of an inner order, a psychological integration ( Montessori, *Secret* 95).

This phenomenon of *normalization* appears only when children are free to choose their own activities . New children in a class will go from one activity to another without showing any real interest. They are merely curious and respond to the stimuli of all the attractive gadgets and gizmos. After they have had presentations with the material, however, they come to know the objects on the shelves and their choices become intelligent. The same inner sensibilities that guided them to sit, stand, walk, and talk now direct them in their choice of work in the classroom. The children, in a sense, gain control of their own progress and begin to work at their own pace.

Over and over, children in a Montessori primary class are asked to make choices, judgments, and decisions, and their capacity for free choice is strengthened by exercise. They decide whether to take an object off the shelf or not; they decide whether to work at a table or get a floor mat; they decide whether to skip to music or control their motor impulses to create silence. With freedom, children grow in inner discipline. “The mechanism of the habit of decision” (Montessori, *Spontaneous Activity* 182) gives a sense of liberty.

Children gradually come to trust their own inner guide. They defer less to the teacher and begin to self-monitor. As they repeat activities that require them to carry out goal-directed movements and provide control of error (Montessori, *Discovery* 314) their awareness and self-control increases. Through repeated cycles of activity their concentration becomes methodical and they gain the “equilibrium, elasticity, and adaptability” necessary to “perform ... higher actions, such as those which are termed acts of obedience” (Montessori, *Spontaneous Activity* 104).

To ensure a continuation of such positive attitudes and the development of the personality along these lines, Montessori says, some real *work* needs to be performed each day (*Spontaneous Activity* 104). *Work* is not only a means of attaining internal growth but also an indication of the level of development. Children begin to sense their growing competence and become fascinated by their own progress (Montessori, *Discovery* 307). This motivates them to work harder. “Discipline,” Montessori said, “is not ... a fact, but a way” (307).

Moral development is tied to cognitive development. Little children who are allowed to pick flowers because they “want” them will quickly throw them down or pull them to pieces. The desire to possess objects results in destructive tendencies. But if the child has learned a little about flowers, e.g., “if the child knows the parts of a flower, the kind of leaf it has, or the branching patterns of its stem, then it will not occur to him to pick it or to damage” it (Montessori, *Absorbent Mind* 219). The interest becomes intellectual; the child does not destroy the flower but wants to study it, to possess not the flower itself, but knowledge of it. Knowledge allows us to make intelligent decisions.

Thus, knowledge brings confidence. And if we are confident, we become independent of the suggestions of others. The strength to resist temptation and make reasonable choices cannot be summoned by moral exhortations or sermons on duty or honor or righteousness. Will power, according to Montessori, is built up by the routine of life itself, by the little decisions of daily living begun in early childhood. “The great achievement of ‘The Children’s Houses,’” she said, “is the production of disciplined children.” The pivotal point in the construction of self-discipline, she continued, is “freedom in intellectual work” (*Absorbent Mind* 109).

Moral development is also related to social development. If children are to live together in a little *society*, there must be a super-structure, “a set of rules which we call *morality*” (Montessori, “Moral and Social Education” 15). Morality is not an abstraction for young children; it is a technique human beings use to live together harmoniously. As such, it is a form of adaptation to social life. For example, people often have to remain seated quietly together at a lecture or in church. This requires a great deal of self-control, even for adults. Little children can learn to sit “arranged in order in their proper places” (Montessori, *Discovery* 54). In a good Montessori class, to achieve a harmonious life together, children follow the rules and behave nicely.

And morality also has an affective dimension. A non-competitive atmosphere is created by the mixed-age group and the absence of rewards. In a collaborative atmosphere, children are not envious of each other’s accomplishments; rather, they admire and praise each other for something well done (Montessori, *Absorbent Mind* 231). Montessori thought competition fostered unhealthy sentiments and believed that if children had to be rewarded or punished, it meant they lacked the capacity to guide themselves (245). Competition between children of different abilities or backgrounds only makes the high achievers “conscious of their superiority” and does not contribute to the development of their moral sensibility. This puts them on the “wrong moral track.” They are not *better*, said Montessori, but simply “more fortunate than their companions.” And she hoped that “their kindly hearts” could be led to recognize the “truth” (Montessori, *Spontaneous Activity* 319). Normalized children are solicitous, gentle, and affectionate (71).

Thus, the Montessori primary classroom assists the development of a “moral sense” (Montessori, *Spontaneous Activity* 326). Just as Montessori teachers know to say “This is red; this is green,” they must know when to say “This is right; this is wrong” (336). Combine the knowledge of “right” and “wrong” with self-discipline and the love that comes naturally to children, and we have the emergence of conscience and the foundations of *moral intelligence*.

## **Summary of Moral Development**

The first phase of life (birth to three) is basically outside of morality. However, the groundwork is laid in the first three years for the formation of moral sensibilities:

- ? nourishment of the human spirit by a warm and protective family atmosphere
- ? internalization of ethical behavior patterns, empathic attitudes, religious and positive cultural values, etc.

In the next phase (three to six), the process of normalization through work within the physical and social environments of the *Casa dei Bambini* consolidates and expands moral development. Optimal outcomes of moral development include formation of such personality traits as:

- ? perseverance, good work habits
- ? ability to choose
- ? self-discipline
- ? independence
- ? mental balance
- ? sublimation of the possessive instinct
- ? care and respect for the environment and for others
- ? willingness to abide by rules to create social order

At the end of the period, we find the awakening of conscience, the inner voice combined with a kind of *moral intelligence* that has been internalized from the order of the external environment. Somewhere between six and seven, children become conscious of this inner voice. Meanwhile, they have acquired the ability to obey and, by the time they are six, their obedience usually can be depended on. They begin to be responsible and feel a sense of duty. They can now listen and pay attention (Mario M. Montessori, *The Child Before 7*). In most countries, formal education begins at this age.

Yet, says Mario M. Montessori, "Whether we realize it or not, the subconscious of the child is a much more powerful agent for good, beauty, and religion than any conscious teaching later on. You cannot impart spirituality to seven-year-olds by teaching moral precepts" ("Dr. Maria Montessori" 58).

## **Cognitive Development**

### **Birth to Three Years**

The cognitive dimension is the lynchpin of all human development (Maria Montessori, *Spontaneous Activity* 198) because the ability to think lies at the heart of our very humanity (Stephenson, "First Plane" 21). *The creation of intelligence*, "man's ... greatest implement" (Montessori, *Absorbent Mind* 22), is perhaps the first and most singularly creative act of a human being's life. Yet it is done in the first period of life (Stephenson, "Secret" 14): a period we can't even remember, a period without conscious memory, reason, or will.

Infants everywhere acquire intelligence and language through natural processes that allow them to adapt to the conditions of their world (Montessori, *Absorbent Mind* 61). Newborns are born only with "constructive possibilities" (57) waiting to unfold. Yet "the 'nothingness' of the babe," Montessori said, "is comparable to the apparent 'nothingness of the germinal cell'" (57) and is designed to evolve in predictable ways through critical periods or periods of specific environmental sensitivity.

Various functional modalities develop independently of one another. For example, "while language is developing on the one hand, the judgement of distances and of finding one's way about, is developing quite separately; so is the power to balance on two feet, and other forms of coordination" (Montessori, *Absorbent Mind* 51).

The acquisition of spoken language is perhaps the most remarkable creative act of these remarkable first years. According to Montessori,

nature has placed an extraordinary sensitivity in the child for fixing words and accents and it is precisely during the period of childhood that a person's language is fixed for life. There is no going back: what a child's

mind assimilates during the sensitive period remains as a permanent acquisition for his whole life, and it can never be acquired at another stage. (*Discovery* 171)

Auditory perceptions excite complicated movements of articulate speech which develop instinctively under environmental stimuli ( Montessori, *Discovery* 246). Speech develops naturally and reflects the deep grammatical structure of language since spoken language “comes in what might be called a ‘grammatical’ order” (258), which is the same for children everywhere. At the same time, the acquired speech reflects the characteristic intonation, pronunciation, or dialect of a region. The infant memory, Montessori said, is “particularly tenacious” (246).

During this time, the child also absorbs an enormous number of sensory impressions ( Montessori, *Discovery* 260) and is entranced with even the tiniest things, details of little interest (or scarcely perceptible) to the adult (Montessori, *Secret* 67). These impressions “fall at once into pattern in the service of reason: it is in the service of his reason that the child first absorbs such images. He is hungry for them, we may well say, insatiable” (61).

Infants have only five ways to feed their insatiable mental hunger: sight, smell, feeling, hearing, and taste. To develop optimally, they must perceive as fully as possible their physical and social environments. Little hands reach out to the environment and grasp it, bringing it in for closer inspection. As such, the hand is called the *organ of intelligence*, “for what is sensed forms the very structure of the mind” (Osterkorn, “Emotional Foundations” 6). All this “wonderful work” is not the product of conscious intention (Montessori, *Absorbent Mind* 23). Montessori describes the infant psyche as *unconscious* but insists that the unconscious mind can be “most intelligent” (23).

### **Three to Six Years**

A good Montessori classroom prepared for children from three to six contains objects and activities designed to actualize the potentials that are the result of the previous three years (Stephenson, “First Plane” 17). Three-year-olds still have what Montessori called *absorbent minds*; they still have “the power to teach [themselves]” (*Absorbent Mind* 6).

If you watch a child of three, you will see that he is always playing with something. This means that he is working out, and making conscious something his unconscious mind has earlier absorbed.... He constructs his mind step by step till it becomes possessed of memory, the power to understand, the ability to think (*Absorbent Mind* 27)

But at two and a half or three, the little child’s mind is in a state of “heavy chaos” (Montessori, *Spontaneous Activity* 203). Normal children, said Montessori, do not need more stimulation; they need to “bring order into the chaos” of mind created by the “host of sensations coming ... from the outside world” (*Discovery* 105). As explorers of a new world, children need a road (something straight and limited) to lead them to their goal and keep them from “wandering aimlessly about” (105).

The Montessori materials are not instructional in the usual sense. Their aim is less to give factual knowledge than to help children reorganize what they already know according to new principles. This increases their capacity to learn by “differentiating” the intelligence (Mario M. Montessori, “Psychological Background” 21).

When a child’s natural impulse to activity is mediated by “a cognition,” an idea, a connection with something known, the more primitive urge becomes a “discerning interest” derived from the intellectual conquest (Maria Montessori, *Spontaneous Activity* 163). Children at this age are particularly interested in things that are familiar, things they have “absorbed” in the earlier period ( Montessori, *Absorbent Mind*). When interested, they focus their minds easily (172). Gradually, there is an “evolution of internal order” (122) as relationships are seen and connections made. As a child *works* in an environment that matches this interest, Montessori said, what is already known “establishes itself in the child as a complex system of ideas” (162).

In the first phase it was sufficient for the infant or toddler to perceive images; in the years from three to six, however, to assist the development of intelligence it is necessary that the child perceive “exactly” and connect the things perceived “logically” (Montessori, *Absorbent Mind* 226). Images of consciousness need to be put in order (202). Children’s natural tendencies to explore, orient, and order assist them in sequencing, classifying, and organizing their impressions into frameworks for learning.

Montessori believed that the period under six is “decisive” (*Absorbent Mind* 181); the abilities a child constructs during this period will remain for life. Consequently she designed the many activities and materials of the *Casa dei Bambini* to enhance the possibilities for cognitive development during this critical time. The order of the environment—things in their place—gives a means of orienting to the environment and of possessing it psychologically (Montessori, *Secret* 52). A high level of environmental order also helps the young mind “retain its equilibrium” throughout its “successive and illimitable enrichment by new material” (Montessori, *Spontaneous Activity* 164). As they work, the children are continually asked to make choices, comparisons, and judgments, and

in so doing, the design of the carefully structured Montessori environment allows their mental acquisitions to fall into logical relation “one with another” (164). “The results are a singular facility and accuracy of reasoning power, and a remarkable quickness of comprehension ” (165).

As they choose and persist in self-educative tasks such as those found in a Montessori primary classroom, young children become aware of new competencies and skills. They know they are gaining “new power” (Montessori, *Spontaneous Activity* 75). This awareness spurs them on to concentrate even more and effects a “permanent attitude of thought, internal equilibrium, and sustained interest. ”

The practical activities focus little children ’s energies by putting the goal of the exercise in clear view and by breaking down complex actions into simple, doable steps. When children work like this, their muscular movement “serve[s] the intellect” and the “functional unity of the human personality ” (Montessori, *Discovery* 81) is preserved. From a Montessori perspective, the development of mind comes about through movement because mind and movement “are parts of the same entity” (Montessori, *Absorbent Mind* 142).

After each cycle of activity is over, a “period of internal work” begins, a period of “assimilation ” or “internal maturation” (Montessori, *Absorbent Mind* 104). Through the repetition of such experiences, perception, thought, and expression are integrated ( Montessori, *Secret* 82); the intellectual level “rises rapidly” (109) and the personality evolves (104).

Work with the sensorial materials helps children increase their “power of discrimination” (Montessori, *Discovery* 182). They concentrate (177). They observe (169), classify, and catalogue external things “on the basis of a secure order already established in the mind ” (Montessori, *Spontaneous Activity* 205). It is not the teacher’s direction that can lead a child to such intense activity; it is the natural impulse to satisfy a spiritual “hunger” (153) that directs the children in a Montessori classroom to work and prompts them to engage in activities involving comparison, judgment, decision making, and the correction of their own error (202).

Knowledge—the ability to recollect quickly and vividly something known —increases in proportion to the level of engagement (Montessori, *Spontaneous Activity* 154). When distracting factors are eliminated, children become spontaneously engaged in an “inner and external analysis ” that helps them acquire a more orderly mind (Montessori, *Discovery* 102).

The world is no longer a chaos for the child; his mind bears some resemblance to the orderly shelves of a library or a rich museum; each object is in its place, in its proper category. And each acquisition he makes will be no longer merely “stored,” but duly “allocated.” This primitive order will never be disturbed, but only enriched by fresh material. Thus, the child, having acquired the power of distinguishing one thing from another, has laid the foundations of the intelligence. ( Montessori, *Spontaneous Activity* 205)

Such impressive effects, Montessori warned us, cannot be expected unless the material corresponds to a child ’s level of development and interest. If given too soon, the exercise may be too difficult for the child. If presented too late, the work will be boring. Like the fable of Goldilocks and the Bears, given a t just the *right time*, the experience will provide “a conquest” for the child and learning will be a “pleasurable experience, neither frustrating nor burdening ” (Mario M. Montessori, “Psychological Background” 23).

From three to six, children are still hyper-interested in language, so this provides an optimal time to teach “the exact names of things” and to help children “speak correctly” (Maria Montessori, *Discovery* 155). They also enjoy analyzing words and delight in building words in straight little rows on a rug with loose letters from a box called the Moveable Alphabet. By five, however, the unconscious, formative interest in language is “already on the decline” (218), and Montessori believed it much harder to teach a seven -year-old to read than a four-year-old! The same was true for writing, which little children learned to do with explosive (222) speed if the indirect preparations had been made, writing “with wonderful deftness, keeping the lines perfectly parallel and an equal distance between individual letters” (227).

A method where children are constantly moving objects with their hands and exercising their sensory powers also allows for the development of their special aptitude for mathematics. Four -year-old children compose numbers up to a thousand (Montessori, *Discovery* 277) and between five and six, they can add, subtract, multiply, and divide numbers “running into the thousands ” (277). Universal tendencies, common to all human beings, “to abstract, to investigate, to imagine, to reason, to create, to calculate, measure and use precision, to be exact” (Mario M. Montessori, “Explanation” 10) combine to create what Maria Montessori called “the Mathematical Mind ” (*Absorbent Mind* 185).

## **Summary of Cognitive Development**

Optimal cognitive outcomes of the first phase (birth to three) involve laying the *procrustean bed* for such basic structures as:

- ? the creation of mind
- ? the acquisition of spoken language
- ? development of memory, the power to understand, the ability to think and move intentionally
- ? formation of consciousness, self-awareness, ego

The unconscious absorbent mind, paired with the sensitive periods, creates the very mind of the human being in the first phase. The potentialities created —intellect, memory, reason, will, etc. —are expanded and refined in the second period.

Optimal cognitive outcomes in the second phase (three to six) of the first plane of development include:

- ? the clarification and classification of impressions absorbed in the first period ( “bringing order into the chaos ”)
- ? increase in knowledge/vocabulary
- ? refinement of sense perception/discrimination
- ? logical/linear thinking
- ? new skills and competencies
- ? sustained interest
- ? augmentation of intellect
- ? internalization of symbol systems: language and mathematics
- ? concrete operations on the above symbol systems with Montessori materials

The cognitive accomplishments of the first six years are truly astounding. As Mario M. Montessori remarked: “Any normal six -year-old is intelligent and can use his intelligence. When he was born he could not speak or understand. Now he can do both.” (*The Child Before 7* n.p.).

Montessori classroom environments, designed to meet specific and expanding cognitive needs of individuals during this critical stage, enhance the chances for optimal development from birth to six by providing opportunities for the *formation of intellect*.

## **Emotional Development**

### **Birth to Three Years**

If this has been put last, it is not to imply that emotional development takes a back seat to social, moral, or cognitive development in Maria Montessori’s scheme. Emotions are at the core of human development. As she remarked, in the embryos of mammals, “the first organ to appear is the heart ” (*Secret* 14) and “the inner drama in a baby’s life is a drama of love.... Love in its widest sense is the sole great reality, which evolves in the hidden recesses of the soul and from time to time fills it wholly ” (39).

The newborn’s first spontaneous expressions are of emotion. They are specifically designed to provide a powerful control over the mother’s behavior (Haines, “Nonverbal Lessons” 11) and establish and maintain significant relationships between the infant and the environment. An atmosphere of love and affection is the most critical influence on the child in the early years of development (Osterkorn, “Emotional Foundations” 14). Thus, the emotional environment influences the infant and the infant influences the emotional environment. The quality of that environment determines the quality of the infant ’s adaptive functioning in that environment (Haines, “Nonverbal Lessons” 10).

The human infant, according to Montessori, is born with potentialities that do not exist in later life. The child is “guided by the unconscious through feelings which are known as instincts ” (Mario M. Montessori, “Explanation ” 9). Through the close emotional ties with the mother, basic behavior patterns are absorbed from the social

environment. Innate emotional sensitivities take the form of a “series of keen emotions rising up from the subconscious” (Maria Montessori, *Secret* 38) and act to tune the sensory system to specific impressions from the outside, impressions that are necessary for development. Such impressions are assimilated easily and eagerly.

Certain aspects of the environment “awaken so much interest and so much enthusiasm that they become incorporated in his very existence” (Montessori, *Absorbent Mind* 24). If mental stimulation is lacking in the baby’s environment, “the baby cries and becomes disturbed, has screaming fits and rages, because he is suffering from mental hunger” (107). This emotional relationship with the world is so intense that it influences an infant’s entire being. Children in this first phase of development are spiritual embryos, Maria Montessori said (cited in Mario M. Montessori, “Psychological Background” 17). They “become like the things they love” (Maria Montessori, *Absorbent Mind* 101).

Personality formation is a consequence of unconscious mechanisms primarily determined by emotional factors such as the child’s close relationship with the adults who care for it. By three years, the personality reaches a first level of integration. If the child is not rejected, it responds “with feelings of gratitude, trust and respect for those superior beings who are willing to help it orient itself in its world” (Mario M. Montessori, “Help to Life” 7). “A sense of worth, security and a means for emotional expression” have evolved, along with “autonomy and independence” (Osterkorn, “Emotional Foundations” 1). If the baby is treated with love and respect within the family and without violence or oppression, it will grow to have feelings of “confidence and adequacy” (Swamy 6).

### **Three to Six Years**

“The unity of the human being is built up and formed by active experiences in the real world, to which it is led by the laws of nature,” writes Maria Montessori in *The Absorbent Mind* (203). Psycho-motor systems created in the first period need to be integrated so that the parts act together “in the service of the individual” (203). As integration is achieved, and as differentiation progresses towards higher levels of maturity, the conscious ego begins to assume guidance over the individual (22).

Every new competency, every skill, every new bit of knowledge gained by the young child provides a concomitant increase in independence. The young child works at this self-construction feverishly. It is as if the child were pleading: “help me to do it myself” (Minwalla 8). If the child’s energies are restricted, protest, tantrums, and naughtiness result. Worse are feelings of indifference, apathy, and hatred.

At this later stage, children continue to be led towards maturity by the unconscious intelligence of the *sensitive periods*, which stimulate them to carry out certain activities and acquire certain experiences. Their choices can also, however, be dictated by subconscious feelings arising from repressed negative experiences that distort the child’s outlook, such as feelings of insecurity, inadequacy, inferiority, or fear (Osterkorn, “Personality Substitution” 10).

A good Montessori primary classroom creates conditions that allow children to manifest their natural developmental propensities. With a prepared environment and freedom to act within it according to their “inner needs, individual rhythm, and tempo” (Mario M. Montessori, “Help to Life” 9), children exhibit characteristics not generally attributed to them:

This included prolonged concentration, the repetition of exercises for their own sake, an urge to make a maximum effort, control of movements, a sense of order, and other phenomena. Perhaps the most astounding result of her approach was the intensity with which children approached activities. Their whole personalities were involved in them, and it was obvious that they were finding in their experiences the kind of pleasure and satisfaction that only results when basic needs are gratified. (9)

The activities young children are most enthusiastic about are those that are necessary for the further structuring of the personality “under the impact of processes of differentiation and integration” (Mario M. Montessori, “Psychological Background” 17). With the “polarization of attention” that comes with concentration, children become “calmer, more intelligent, and more expansive” (Maria Montessori, *Spontaneous Activity* 68). “Doubt and timidity disappear” (185). After working in such a way, the children appear to be “rested, satisfied, and uplifted” (97), “capable of controlling their nerves” (94). “Broken bits of personality” are “reunited” (Minwalla 8). A new emotional equilibrium is achieved; the spirit is “organized” and “fortified” (Montessori, *Spontaneous Activity* 82). “The child who concentrates,” Montessori writes, “is immensely happy.... Love awakens in him for people and for things. He becomes friendly to everyone, ready to admire all that is beautiful. The spiritual process is plain: He detaches himself from the world in order to attain the power to unite himself with it.” (Montessori, *Absorbent Mind* 272-273).

When the child works to assimilate the environment, the personality is unified. “Individuality develops and organizes itself round the action of this motive -principle in relation with the outside environment ” (Montessori, *Secret* 32). Once achieved, however, it cannot rest content. The personality must “continually maintain its sovereignty by its own strength” (32). The improvement will be “purely temporary” (Montessori, *Absorbent Mind* 205) if children go back to live in conditions that have not been altered.

Montessori’s unifying vision does not separate emotional wellness from moral, social, or intellectual health. “The life of the body,” she wrote in *Spontaneous Activity in Education*, “depends on the life of the spirit ” (25): Grief makes the heart beat feebly; anger contracts the capillaries. But pleasure dilates the blood vessels and is like “an injection of health.” And morality has an emotional component: Good brings serenity; evil brings anguish and remorse (337). Moral education must be based on feeling, she said (331). Yet the strongest linkage is probably between the cognitive and emotional dimensions. Because humans are thinking beings, and because each child needs to become a human being, “every intellectual conquest is a wellspring of joy to our free children ” (218). “The opening of the mind ” is a “creative phenomenon,” an active *Eureka!*, accompanied by “great emotions” (217).

Children derive so much joy from constructive activities that satisfy inner needs, that it seems as if they are playing (Minwalla 8). They are “supremely happy” (Montessori, *Formation* 35) when given the opportunity to simply realize their own development. The acquisition of new skills and new knowledge changes children; they are not longer “discontented.” “The joy of life” is in them (Mario M. Montessori, “Keys” 14). “Joy,” Maria Montessori says, “is the indication of internal growth, just as an increase in weight is the indication of bodily growth” (*Spontaneous Activity* 93). She quotes an early Montessori directress, Anne E. George: “They skip around me, and throw their arms around my neck, when they have learned to do some simple thing, saying: *I did it all alone, you did not think I could have done that; I did it better today than yesterday*” (93).

The love of such children “seems to expand” (Montessori, “Child and Society” 2); they have an “anxious concern for living things ” (Montessori, *Discovery* 71); they are “in love” with their world (Montessori, *Absorbent Mind* 84). This *love of the environment* is not the “fluffy kind ” (Stephenson, “First Plane” 19) usually thought of, but a “love inspired by knowledge” (Montessori, “Two Natures” 5). When children willingly explore their surroundings, they experience “a new happiness at every discovery they make” (*Discovery* 231). These “normalized children ” are “warm, expressive, outgoing, and optimistic ” (Osterkorn, “Socialization ” 16).

## **Summary of Emotional Development**

Optimal outcomes along the emotional dimension for the period from birth to three include:

- ? the establishment of close emotional ties with the adult caregiver
- ? a sense of security and safety within the family
- ? the first level of personality integration
- ? feelings of gratitude, trust, and respect for significant adults
- ? feelings of adequacy, autonomy, independence, and confidence

When the right conditions meet the child’s need for love and security, then with the second phase (three to six), manifestations are further articulated and advanced as the child enters a Montessori *Casa dei Bambini*. In this environment, children can concentrate their energies on constructive activities. When children work in this way, they demonstrate:

- ? pleasure in purposeful activity
- ? serenity, calmness, satisfaction, emotional equilibrium
- ? happiness, joy
- ? an anxious concern for life
- ? love for people and things
- ? emotional wellness
- ? warm, expressive, outgoing, and optimistic personalities

Such children have already begun to make a positive adaptation to their world and have discovered how to find happiness, spiritually and physically, in the conditions of that world. A kind of *emotional intelligence* has been created, which will hopefully serve them throughout the coming stages of life.

## References

- Haines, Annette M. "The Nonverbal Lessons of Attachment." *AMI Communications* (1995, #1): 9-16.
- Haines, Annette. "Universal Interest Levels in Early Childhood: Montessori's Theory of Sensitive Periods." Diss. Southern Illinois University -Edwardsville, 1997.
- Joosten-Chotzen, R. "What Difference of Age Should There Be among Children in a Montessori -Group?" 1961. *AMI Communications* (1983, #1): 30-32.
- Minwalla, Gool K. "Being and Becoming—a Montessori Approach." *AMI Communications* (1983, #2/3): 2-13.
- Montanaro, Silvana. "The Developmental Potential of the Child in the First Year of Life." *AMI Communications* (1986, #1): 13-20.
- Montessori, Maria. *The Absorbent Mind*. 1949. Trans. Claude A. Claremont. New York: Delta, 1967.
- Montessori, Maria. *Spontaneous Activity in Education*. 1916. Trans. Florence Simmonds. New York: Schocken, 1965. Vol. 1 of *The Advanced Montessori Method*. 2 vols.
- Montessori, Maria. *The Child*. 1941. Adyar, Madras, India: Theosophical Publishing House, 1965.
- Montessori, Maria. "The Child and Society [Lecture, London, 1939]." *AMI Communications* (1973, #4): 2-6.
- Montessori, Maria. "Child's Instinct to Work [Lecture, London, 1939]." *AMI Communications* (1973, #4): 6-9.
- Montessori, Maria. *The Discovery of the Child*. Trans. M. Joseph Costelloe. New York: Ballantine, 1967.
- Montessori, Maria. *The Formation of Man*. 1955. Trans. A.M. Joosten. Oxford: Clio, 1989.
- Montessori, Maria. "Moral and Social Education [Lecture, Edinburgh, 1938]." *AMI Communications* (1984, #4): 15-19.
- Montessori, Maria. *Reconstruction in Education*. 1942. Adyar, Madras, India: Theosophical Publishing House, 1964.
- Montessori, Maria. *The Secret of Childhood*. 1936. Trans. Barbara Barclay Carter. Hyderabad, India: Sangam Books, 1983.
- Montessori, Maria. "The Two Natures of the Child." 1933. *AMI Communications* (1995, #4): 4-9.
- Montessori, Maria. Unpublished lecture. Dr. Maria Montessori's International Training Course. London. 1946.
- Montessori, Mario M. 1. *The Child Before 7 Years of Age*. 2. *The Child After 7 Years of Age*. 3. *What Children Taught Dr. Montessori*. Amsterdam: Association Montessori Internationale, 1959.
- Montessori, Mario M. "Dr. Maria Montessori and the Child." 1961. *The NAMTA Journal* 19.2 (1994, Spring): 47-58.
- Montessori, Mario M. "Education as a Help to Life." *AMI Communications* (1990, #2/3): 2-10.
- Montessori, Mario M. "Explanation of Certain Leading Concepts." *AMI Communications* (1978, #2): 6-12.
- Montessori, Mario M. "Keys to the World of the Child." 1948. *AMI Communications* (1998, #4): 6-16.
- Montessori, Mario M. "The Psychological Background of the Montessori Material within the Setting of the Prepared Environment." *AMI Communications* (1970, #1): 15-27.
- Montessori, Mario M., Jr. *Education for Human Development*. NY: Schocken, 1976.
- Montessori, Renilde. "Human Education toward a New World." *AMI Communications* (1992, #1): 9-14.
- Osterkorn, Jon. "Emotional Foundations of Independence." *AMI Communications* (1976, #3/4): 14-20.
- Osterkorn, Jon. "On the Significance of Personality Substitution." *AMI Communications* (1976, #1): 4-17.

- Osterkorn, Jon. "Socialization and the Development of Self -Concept." *The NAMTA Quarterly* 5.3 (1980, Spring): 12-16.
- Schiarnberg, Lawrence. *Child and Adolescent Development*. New York: Macmillan, 1988.
- Stephenson, Margaret. "The First Plane of Development." *AMI Communications* (1991, #1): 14-22.
- Stephenson, Margaret. "'The Secret of Childhood' and 'To Educate the Human Potential.'" *AMI Communications* (1996, #1): 12-24.
- Swamy, S.R. "Human Excellence and Montessori Education." *AMI Communications* (1991, #1): 4-7.
- Waltuch, Margot R. "Children Want to Understand the Demands of Social Living. " *The NAMTA Quarterly* 5.3 (1980, Spring): 19-20.

# The Second Plane of Development (6-12 years)

by Kay Baker

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Thinking about human development permeates human history. The *fact* of development appears before our eyes with the birth and growth of every baby, yet we cannot help but wonder about the *details*. These details are endlessly fascinating because of the variance in human development and the variance in human cultures. The human mind searches for the simplest theory of human development that explains the variance, generalizing over all differences in culture and time. Furthermore, this simple theory should allow for the description of *optimal* human development, encompassing both philosophical and psychological elements.

If we are to describe optimal development, then the nature of the human mind and the nature of human behavior need description. In a sense, the human being needs to be idealized; human nature and behavior must be described before optimal development can be described, much less realized. Yet a description of the ideal human being must be gleaned from the actual human being. This is Maria Montessori's great contribution. She established observation of the human being as the *sine qua non* underlying a theory of human development. From the many instances of actual human beings, she hypothesized that one could describe the nature of the ideal human being and its optimal development. Her contributions began in observation and ended with the message, look where I am pointing—to the child, who undergoes the development leading to the human being.

Maria Montessori's approach varies substantially from the approach that if one “first articulates a clearer picture of desirable adult developmental outcomes, then it is easier to search the literature about earlier developmental periods and, it is hoped, find the connections that link certain patterns in childhood with desirable adult outcomes” (Csikszentmihalyi & Rathunde 639). Montessori's approach is instead to observe the human being in the process of development. But how does one observe this, given that the process of development is obstructed from the beginning by lack of optimal conditions? Montessori's answer is to place the child in an environment and remove obstacles to development: “It is Nature, ‘creation,’ which regulates all these things. If we are convinced of this, we must admit as a principle the necessity of ‘not introducing obstacles to natural development’” (Montessori, *Spontaneous Activity in Education* 5). That is to say, we must remove as many contaminants to normal development as possible. It is then that one can identify what the normal process of development is and only then hope to find the connections between childhood patterns and desirable adult outcomes.

Montessori's idea of an uncontaminated environment came from two sources. The first was accidental: One day in the San Lorenzo *Casa dei Bambini*, the teacher was late, and the children, who were already oriented to the environment, simply started their activity. The second was taken from history: How did human beings of long ago find their way on earth? They simply followed their natural urges to find means of survival and then to perfect these means. Thus the nature of the uncontaminated environment was revealed: an environment that allowed for spontaneous activity and an environment that contained means for surviving and for perfecting these means.

In this way, too, the nature of the human being can be described. The human being is active and finds the means to live a human life by activity in the environment. But there is one more element necessary for normal human behavior to show itself. This is the element of freedom. Montessori calls this spontaneous activity. The basic premise is that the particular human being in its process of development cannot develop its own being without choice of activity in the prepared environment. Freedom to choose is an element of individual human development. Montessori writes, “the child must learn by his own individual activity, being given a mental freedom to take what he needs, and not to be questioned in his choice” (Montessori, *To Educate the Human Potential* 7), and, in another place, “Instead of having to deal with many separate problems—such as, what are the best aids to the development of character, intelligence and feeling?—one single problem will present itself as the basis of all education: How are we to give the child freedom?” (Montessori, *Spontaneous Activity* 5).

In freedom, the particular human being constructs the personality—that is to say, constructs *this* human being. “The more the babe is left free to develop, the more rapidly and perfectly will he achieve his proper proportions

and higher functions ” (Montessori, *Spontaneous Activity* 4). The stage is now set for the theory of human development proposed by Montessori.

## Four Planes of Development

In the psychological theory proposed by Maria Montessori, there are four well-defined periods of life during which adaptation to society and the world and a unique self-construction of the individual personality are accomplished: (a) the first plane, birth to age six; (b) the second plane, age six to puberty; (c) the third plane, puberty to age eighteen; and (d) the fourth plane, ages eighteen to twenty-four (Montessori, *The Four Planes of Development*). At the end of these four periods, the individual personality is considered developed and complete in the acquisition of those aspects that allow the individual to enter into society and take on a career, mission, or life’s work.

Childhood encompasses the first two planes of development; together, these two planes constitute the period of adaptation of the human being to society. This adaptation is peculiar to childhood: “The task of adapting seems to be set by nature only for childhood’s accomplishment; the adult is not adaptable ” (Montessori, *Education for a New World* 27). The process of adaptation is, in fact, social development. Moreover, the second plane complements the first. Whereas in the first plane the adaptation results in the child’s being able to live within the confines of the home and a limited area outside the home, the adaptation of the second plane results in the child’s feeling at home on the planet.

Adaptation (from Latin *adaptare*, “to fit”) is always an individual accomplishment. Each person has to find out what it means to be “at home,” first in the home and eventually on the planet. Further, adaptation suggests flexibility. It seems superfluous to say that living on this planet requires flexibility —the weather changes, the length of day and night changes, mountains grow, bodies of water change in size and volume, parents die. So one not only has to feel at home on the planet; one has to feel at home with change and the possibility of change: “Adaptation to the environment and efficient functioning therein is the very essence of a useful education ” (Montessori, *What You Should Know about Your Child* 87).

The construction of self occurs by means of several factors, among which are the child and the work of the child, the adult and the work of the adult on behalf of the child, and the environment, within which and upon which the child works. In a Montessori context, *work* is a term used to describe the activity of the individual across developmental stages. Thus the activity of the child is not separated into play periods and work periods but includes any time the child is active. Activities that engage the child’s interest and use both mind and body contribute to health, well-being, and self-construction: “Man builds himself through working, working with his hands, but using his hands as the instruments of his ego, the organ of his individual mind and will, which shapes its own existence face to face with its environment ” (Montessori, *The Secret of Childhood* 200).

This paper will discuss the second-plane child with respect to the development of social, moral, cognitive, and emotional dimensions of the human personality.

## Social Development in the Second Plane

According to *Webster’s New World Dictionary*, *social* is defined as “of or having to do with human beings living together as a group in a situation in which their dealings with one another affect their common welfare. ” The etymology of *social* is from the Latin *socius*, “companion,” and akin to *sequi*, “to follow.” Thus social development is the facet of development that addresses the formation of the personality with regard to how human beings live together and affect each other.

Montessori states the desirable social outcome of the second plane of development as a question, “Do we merely live here for ourselves, or is there something more for us to do?,” and its answer, “The answer was ever what it still is—God has sent you upon the earth to work and do your duty” (*To Educate* 9-10). What is work? What is duty? At the second plane of development, *work* is defined in its cosmic dimension; Montessori speaks of children’s need to understand “the part they play” in the work of the cosmic plan (*To Educate* 33).

Bringing God into the discussion underscores the fact that development is not guided solely by other human beings; rather, it is guided above all by nature. Therefore, the normal development of the child —that is, development in accordance with the inherent laws of nature —secures all optimal outcomes, social and otherwise. What laws, then, are specific to social development?

If, in the first plane of development, the child has formed a personality oriented to the world of human beings as experienced by the child *within* its cultural environment, then in the second plane the child must form a personality

oriented to the world of human beings *outside* its cultural environment. The child has no choice but to live in a social context with others in the world. If the personality formed is not adapted to both the birth culture and other human cultures, then the person is unable to achieve social development. The more the child is adapted to the whole of human society, the more possibilities exist for the child to work and thereby do his or her duty. How does this adaptation to the whole of human culture occur? The means to bring a child to this realization are not through sermonizing but through bringing about in the child a love of humanity (Montessori, *To Educate* 23).

Furthermore, it is only in the second plane of development that a love of humanity can be developed, for it is only in this period of life that the child “begins to be interested in outer things” (Montessori, *From Childhood to Adolescence* 41). How is this love to be awakened? Montessori states:

What is very necessary is that the individual from the earliest years should be placed in relation with humanity.... The child will have the greater pleasure in all subjects, and find them easier to learn, if he be led to realise how these subjects first came to be studied and who studied them. We write and read, and the child can be taught who invented writing and the instruments wherewith we write, how printing came and books became so numerous. Every achievement has come by the sacrifice of someone now dead. Every map speaks eloquently of the work of explorers and pioneers, who underwent hardships and trials to find new places, rivers and lakes, and to make the world greater and richer for our dwelling. ( *To Educate* 23)

Love of humanity is awakened through knowledge of the achievements of human beings who have come before. Knowledge about how culture has evolved allows the child to see the big picture. Not only that, but the child will have pleasure in acquiring the elements of culture. At the same time, the child is led to a love of humanity and thus to social development. As the child recognizes the origins of the elements of culture and then acquires these elements, the child simultaneously learns how individual actions affect all others, a key element in socialization.

What does a Montessori environment prepared for the child of the second plane contribute to the child’s social development? Montessori suggests that emphasis must be placed on self-discipline and character. When individual self-discipline and character are integrated with educational development, then and only then will social harmony ensue: “If education is to be an aid to civilization, it cannot be carried out by emptying the schools of knowledge, of character, of discipline, of social harmony, and above all, of freedom ” (Montessori, *What* 98).

How should we go about filling rather than emptying schools of such abstractions as knowledge, character, discipline, social harmony, and freedom? First, we should fill the schools with sensorial objects, which constitute motives for activity, thus leading to the acquisition of knowledge. Second, we should fill the schools with opportunities to choose, thus leading to the formation of character and the development of inner discipline. Third, we should fill the schools with an enlargement of the field of action, so that the freedom to choose and act within the prepared environment leads to freedom to choose and act within the larger environment of society —fostering social harmony.

## **Sensorial Objects**

The human mind receives impressions through the senses, and thus knowledge enters the human mind through the senses. Therefore, sensory input is central to Montessori pedagogical theory. In the second plane of development, the sensorial objects that are the child’s motives for activity and the means by which the child acquires knowledge fall into two categories: (a) objects of the environment and (b) materialized abstractions. The objects of the environment represent themselves and their function. Examples include cleaning supplies, calendar, clock, pencils, paper, books, and other such objects. The materialized abstractions represent functions of objects and ideas. Examples include posters that represent such abstractions as photosynthesis, the relationship of rainfall to plant growth, or global wind patterns; three-dimensional sensorial materials that represent such concepts as the decimal system, common and decimal fractions, or area and volume; and materials used to represent algorithmic procedures such as division, multiplication, square root, and cube root. The child learns to use sensorial objects either functionally or representationally.

## **Opportunities to Choose**

Activity freely chosen is the genesis of the development of the individual personality. Therefore, the more that freely chosen activities *within the limits* of the prepared environment constitute the work of the child, the more the individual personality develops according to the child’s potential. In addition, the more that freely chosen activities occur in conjunction with other individuals, as occurs in the environment prepared for the child in the second plane, the more the social personality develops. In the social dimension, the potential of the individual within human society translates, first, to the recognition of personal choice within the limitations of the social environment and, second, to the acceptance of individual responsibility. One who has developed these two aspects of the personality is said to have character and certainly can be said to possess a discipline of self.

## ***Enlargement of the Field of Action***

The environment prepared for the child of the second plane is specifically designed for enlargement beyond the confines of the classroom. "Storytelling" about basic facts of the world constitutes a major feature of this environment, and the very first story that is told is that of the existence of the universe. This is the method used to signal to the child that there is more beyond what he or she sees and has experienced. To be able to place oneself in a time and place beyond the present is to be able later to place oneself in another's place and to appreciate the other. So freedom to act and to choose activities is enlarged with every new story. The child in the second plane is encouraged to learn about things in a larger and larger environment and, in particular, to develop a love of humanity by learning about people in time and space. To Montessori, social harmony is built on a love of humanity, itself built on what others have done for us.

Here, then, are Montessori directives for the teacher of children aged six to twelve. Note how the children's engagement in these activities becomes progressively deeper. First they learn, then they go and observe, then they stay and help. The classroom is not big enough to contain the activities of the child, thus guaranteeing that the child becomes a child of society and the world, not merely of a particular time and place. This enlargement of the field of action ends with the child's "intimate contact with the world," both social and natural, on the face of it a blueprint for social harmony:

Children should be taken on one or two trips in the year. Everything should be planned out beforehand, the itinerary, the expenses, time tables. On these trips children will put into practice what they have learnt, their knowledge of plants, animals, the lives of the insects and observation of nature in general. They can also collect specimens, biological, botanical, and the collection may be for the school, the house, or the museum. They can observe facts of geography and collect zoological specimens. They should observe the animals in the zoo and on the farm, visit botanical gardens, see how the cattle are looked after, know how to fish, go to historical places and also see the pre-historical excavations in the neighborhood, if any.

Children between the ages of 10 and 12 should visit the places of work and production; i.e., industrial centers, factories, see how the minerals are extracted from their ores, come in touch with the products of civilization to learn under what conditions man produces different articles. To live with the fisherman and help them in their work, and to do the same with the miners. To visit farms where agriculture is carried out scientifically, to visit printing presses and to see how the dailies are being printed and distributed. To visit the centers of exchange and trade, to see the arrival, and loading and unloading of boats in the harbors, to travel in bullock cars and in boats, to row and to be towed along.

All this is directing and helping the individual to prepare for the period of rest between the ages of 12 and 14 years. This helps the child to gain an intimate contact with the world. The child must explore the social conditions of man and the different aspects of society and also of nature. (Montessori, Mario, Sr. n.p.)

## ***Summary of the Social Dimension***

Social development is closely intertwined with the other dimensions of personality development. One cannot develop a love of humanity without knowledge (cognitive dimension). Love stirs up the emotions (emotional dimension). What you love you do not harm (moral dimension).

When the child forms a love of humanity, the following outcomes result:

- ? "The child becomes obedient, ever ready and willing to sublimate the will in the interests of society" (Montessori, *To Educate* 100). "However, this obedience is not a blind obedience but rather an obedience granted when the mind understands the reasons why the obedience is necessary" (Montessori, *Education* 82). As the child gains experience and knowledge, the mind understands the effects that actions have on others. When this understanding becomes totally conscious to the child, the child is able and willing to forego and forebear, a key ingredient in social harmony.
- ? "The child becomes sociable, ready to interact with others" (Montessori, *What* 66). The developed child is ready to socially interact. This development includes knowing the practicalities of social interaction. In this sense, the comparable practical life of the child in the second plane of development is knowing and practicing a code of social customs and rules.
- ? "The child becomes enabled to render service to civilization" (Montessori, *What* 95). The result of practicing social interaction and of loving humanity is service. The child wants to serve and is not hindered by ignorance of how to serve gracefully.
- ? The child becomes a moral person and "does not wish to have any trace of disorder on his person, nor does he wish to leave any trace of disorder in his wake" (Montessori, *Education* 28).

## Cognitive Development in the Second Plane

The cognitive (Latin *cognitio*, “knowledge”) dimension of the human personality would encompass the process of knowing in the broadest sense. The most famous statement made by Dr. Maria Montessori about the cognitive development of the child in the second plane may be the following: “We claim that the average boy or girl of twelve years who has been educated till then at one of our schools knows at least as much as the finished High School product of several years’ seniority, and the achievement has been at no cost of pain or distortion to body or mind” (Montessori, *To Educate* 1). If one were to stop reading the passage at this point, then it would merely be necessary to detail the curriculum of high school and demonstrate how this curriculum is delivered in fewer years. However, it is in the next part of the passage that Montessori consolidates what it means to complete the two stages of childhood: “Rather are our pupils equipped in their whole being for the adventure of life, accustomed to the free exercise of will and judgment, illuminated by imagination and enthusiasm. Only such pupils can exercise rightly the duties of citizens in a civilised commonwealth ” (Montessori, *To Educate* 1). The word *rather* seems to relegate the acquired knowledge to a place within the total development of the child. The connection of total development to social development is made. Only such persons can take their place in society, i.e., are socially developed.

Nevertheless the cognitive development of the child is part of total development. Knowledge is the foundation upon which the child can build the ability to make choices, to act, and to interact with other human beings. What is cognitive development for the child of the second plane? Montessori states that development in the second plane is not a direct continuation of what has gone before. The thrust of cognitive development at the second plane has two facets: (a) The consciousness of the child extends to life outside the home and limited circle of relatives and friends; and (b) There exists an unusual demand to know the reasons for things (Montessori, *To Educate* 1). Because these characteristics are part of the second-plane child’s psychology, a pedagogy responsive to these characteristics has a greater possibility of contributing to the total development that leads to taking a place in society. Therefore these characteristics guide Montessori pedagogy for the child of the second plane.

To want to know the reasons for things governs the delivery of content knowledge. Content knowledge is a universal among all forms of pedagogy. What distinguishes Montessori pedagogy is the manner of delivering the content. More precisely stated, second-plane children want to understand for themselves, not simply accept what they have been told. Hence cognitive development is best served by presenting material that can be understood even though the child has limited experience. This means input through the senses that reveals basic principles — the reasons for things.

If, for the child in the first plane, Montessori pedagogy uses a concrete approach, there is now, for the child in the second plane, a concrete approach to abstract things. More than that, there are presentations of activities in which the child manipulates concrete objects that mimic abstract processes: “Children show a great attachment to the abstract subjects when they arrive at them through manual activity ” (Montessori, *To Educate* 12). Activities are presented that “satisfy the child’s yearning to use its eyes, ears, hands, legs and limbs, to apply its mind to the surrounding objects and to gather knowledge directly from them ” (Montessori, *To Educate* 9-10). “The intelligence of the child will reach a certain level without the use of the hand, but with it a still higher level is reached, and the child who has used his hands invariably has a stronger character ” (Montessori, *What* 53).

What activities to choose? Again the child’s characteristics guide the choice. The child is now increasingly conscious of the world outside the limited environment into which the child was born. What better to study than the universe in which human beings have developed their knowledge? The child at the beginning of the second plane is presented with the existence of the universe and is then presented with many details —knowledge of what exists in the universe. Thus all content knowledge is placed within the context of all that it is possible to know: “Knowledge, carrying its conclusion, radiates as though from a center, much as a seed develops little by little ” (Montessori, *From Childhood* xii).

The advantage of the presentation of the universe is that giving the child knowledge in the context of the universe “helps the mind of the child to become fixed, to stop wandering in an aimless quest for knowledge ” (Montessori, *To Educate* 8). In the second plane the child is helped to recognize and understand the reasons for things, thereby fixing the attention by catering to the child’s characteristic of wanting to know the reasons: “We must seek the symbols accessible to the child that bait the primitive logic that makes him reason ” (Montessori, *From Childhood* 63-64).

The most important consequence of this fixing of the attention is the power of concentration. Whereas concentration in the first plane of development was manifested in total fixing of the child’s attention on an activity, concentration in the second plane of development is manifested in total fixing of the child’s attention on finding

the reasons for things. Therefore the child's mind is capable of reflection, no longer needing sensory input to concentrate.

There is no need to detail a curriculum here except to point out that the presentation of knowledge pays particular attention to another characteristic of human beings—the power of imagination. “True imagination based on true images or ideas derived from reality forms an important part of human intelligence” (Montessori, *What* 66). Because the child received knowledge first through the senses, the child is given images of the reasons for things. For example, the child is given figures that can be handled and thereby understands the formula for the area of a parallelogram by establishing the equivalence of the area of the parallelogram to that of a rectangle having the same base and altitude. The image of the transformation of the rectangle into a parallelogram and vice versa is permanently present in the imagination and provides the means for the child to recall and even to reconstruct: “Touching is for the younger child what imagining is for the older child” (Montessori, *From Childhood* 38). “The world is acquired psychologically by means of the imagination. Reality is studied in detail, then the whole is imagined. The detail is able to grow in the imagination, and so total knowledge is obtained” (Montessori, *From Childhood* 34). The words of Montessori are echoed in this passage from the writings of L.S. Vygotsky:

The essential feature of imagination is that consciousness departs from reality. Imagination is a comparatively autonomous activity of consciousness in which there is a departure from any immediate cognition of reality.... At advanced levels in the development of thinking, we find the construction of images that are not found in completed form in reality. (349)

In addition to sensorial manipulation and the use of the imagination, the child is also led to acquire knowledge by being helped to observe and to seek knowledge independent of the adult. The child literally or figuratively held by the hand is restricted to the knowledge given by the person who holds the hand (Montessori, *From Childhood* 29). What is the purpose of serving the cognitive development of the child? Montessori answers with a question: “What purpose would education serve in our days unless it helped man to a knowledge of the environment to which he has to adapt himself!” (Montessori, *The Formation of Man* 10).

There is another important part of cognitive development of the second plane—the acquisition of written language. Of course, much learning occurs without reading and writing, but Montessori considers the acquisition of written language a characteristic of civilized human beings, those prepared to live in social harmony:

Language is an expression of the intelligence. What would be the purpose of such an intelligence if man were not able to understand and transmit his thoughts? Spoken language is like a breath of air which can reach only the ear which happens to be close to it. That is why men, from remotest antiquity onwards, have looked for means to transmit their thoughts over a great distance and to fix their remembrance. After many tries, the alphabet gradually evolved.

Written language, therefore, must not be considered merely as a subject in school, and a part of culture. It is, rather, a characteristic of civilized man. (Montessori, *The Formation of Man* 93)

## **Summary of the Cognitive Dimension**

So there is again the interrelationship of the elements of total development. Cognitive development serves the adaptive process and the adaptive process results in a person socially developed and able to live in social harmony.

Following are cognitive outcomes of Montessori education at the second plane of development:

- ? “But if neglected during this period [the second plane], or frustrated in its vital needs, the mind of the child becomes artificially dulled, henceforth to resist imparted knowledge” (Montessori, *To Educate* 5). Supporting the eagerness of the child to learn during the second plane of development has serious consequences for later life. If this eagerness is given priority, the child's cognitive functions are heightened and left open to later acquisitions.
- ? “All factors of culture may be introduced” (Montessori, *To Educate* 6). An important outcome for the second plane is that the child receive the basic elements of as much as can be introduced.
- ? “We seek to sow life in the child rather than theories, to help him in his growth, mental and emotional as well as physical, and for that we must offer grand and lofty ideas to the human mind, which we find ever ready to receive them, demanding more and more” (Montessori, *To Educate* 14). Knowledge, given as grand and lofty ideas, is the means to total development. Knowledge is what the human mind strives to acquire and what gives the child a rewarding life.

## Moral Development in the Second Plane

The moral dimension concerns relating to, dealing with, or being capable of making the distinction between right and wrong in conduct. The moral person would be a person of good conduct, even virtuous. Montessori admonished the adult: “Before we offer moral education to the child, let us imitate the priest who is about to ascend to the altar: he bows his head in penitence and confesses his own sins before the whole congregation ” (Montessori, *Spontaneous Activity* 17). Insofar as the adult is a social part of the child ’s community, first the adult must remove pride and hypocrisy from the observation of the child ’s moral behaviors. Montessori would consider moral education to be an integral part of social development. In the course at Kodaikanal, India, in 1944, Mario Montessori also mentioned social relations as related to the morality of the child in the second plane.

Certain social behaviors are, on their face, intrinsically moral: respecting elders, caring for the wounded, respecting animals and plants, generally being of help, not trying always to be first, avoiding useless discussion, withstanding with dignity one ’s own failures, not whining or grouching. This link of practical directives to the development of the conscience (moral development) is congruent with the sensorial approach in the cognitive dimension. The child begins in the sensory world with activity and progresses to the cognitive world of reflection. The desire to know the reasons for things in the cognitive realm is akin to the desire to know how to decide in the moral realm: “In the field of morality, the child now stands in need of his own inner light ” (Montessori, *To Educate* 6). Whereas in the first plane the child looked for guidance from the adult, now the child needs to learn how to guide the self. Moreover, from a purely intellectual standpoint, a problem of good and evil is an interesting question. Second-plane children have been called philosophers because they explore such questions. First the child ponders theoretical questions, then, over time and experience, the child learns to relate the questions and answers to real-life situations.

There is no doubt that the first plane and the second plane are connected in the moral realm. “The period from 3 to 6 is the time for developing character, each child developing by his own laws unless obstructed ” (Montessori, *Education* 71). Character is the pattern of behavior or personality found in an individual, the person ’s moral constitution. Without this development of character, the child “is unlikely to have the moral conscience that should develop from 7 to 12” (Montessori, *Education* 75). This development of character in the first plane is focused on the internal strength of personality. Now this strengthened personality turns outward and develops the conscience, the moral compass that guides behavior in the social realm. Montessori claims that the conscience awakens in the second plane (Montessori, *Education* 81). The awakening of conscience is linked to the child ’s cognitive functions: “At this age the concept of justice is born, simultaneously with the understanding of the relationship between one’s acts and the needs of others” (Montessori, *Education* 12). It is the responsibility of the adult to prepare social experiences so that the child may discover the relationships between his or her behavior and the needs of others (Montessori, *Education* 26).

The development of the cognitive functions supports the moral development of the child. The child at the beginning of the second plane is exposed to the law and order of the universe. The child experiences the benefits of natural law: Gravity keeps objects on earth, water cracks the rock so that niches form in which organic matter supports the growth of plants, light and heat from the sun travel through the atmosphere keeping the earth warm. Harmony is the natural condition underlying all that exists. The extension to social harmony is natural and expected. Just as life forms in the sea restore the balance of minerals and liquid, humans must restore social harmony when it becomes unbalanced. It is through the cognitive realm that the child is led to make sense of what is sometimes an unpredictable realm —that of social interaction.

The most important element of the environment for the child with reference to moral development is the Going Out program. The program begins with activity in the limited environment of the classroom. As the child ’s self-control and obedience to social rules develops, the child simultaneously is seeking to know the reasons for things. Many of the child ’s questions can be answered in the classroom. There comes a time, however, when the classroom does not hold the answer. When the child has the necessary amount of self -control, the child goes outside the classroom to resolve the question. So catering to the needs and characteristics peculiar to this stage of development allows the child to realize what self -control is, to know the consequences of choice, and to understand the rules governing conduct in society. Since the child must have a companion when leaving the classroom, the child practices seeking answers for the self while attending to the other. Children must be able to practice these elements, or else they will not be able to act on their own or to make judgments. In other words, they will not develop a conscience.

In fact, it is the daily activity of finding out the reasons for things in the company of others that supports development in the moral realm: “The children not only make progress in a marvelous acquisition of culture, but

they acquire more mastery of their actions, more assuredness in their behavior, without any stiffening or any hesitation due to timidity or fear” (Montessori, *Education* 49).

The development of the will is also a necessary ingredient of the development of conscience. Of what good is the intellectual understanding of relationships if one is timid about choosing the harmonious path? Not to walk on someone’s literal mat at the first plane is not to walk on someone’s figurative mat later in life: “If important before not to bump someone, now important not to offend someone” (Montessori, *Education* 18). The development of the will is accomplished in the first plane insofar as the child is “accustomed to the free exercise of will and judgment” (Montessori, *To Educate* 1). In the second plane, this free exercise is consciously moderated by the needs of others.

It is worth emphasizing the interplay of the cognitive and moral realms. Montessori states, “A turning toward the intellectual and moral sides of life occurs at the age of seven” (*Education* 11). These two ideas are linked because the human being wants to know the reasons for things. Without knowing the facts of the planet and the relationships therein, it is quite unlikely that one can even think about one’s moral responsibility to the environment. The presentation of ecology to a child in the second plane is at first a presentation of facts. But the child from six to twelve, who questions everything at this time, responds by asking “what if” questions. What if the predator disappears? What if food for the predator disappears? What are the moral implications of disrupting the web of life?

### **Summary of the Moral Dimension**

The developing child cannot make moral decisions about that which is not known. What you do not know about you cannot care about. What you do not care about is least considered when making decisions.

Following are moral outcomes of Montessori education at the second plane of development:

- ? The child becomes a moral person and “does not wish to have any trace of disorder on his person, nor does he wish to leave any trace of disorder in his wake” (Montessori, *Education* 28). Moral development concerns both the self as self and the self in relation to the other. The interplay of serving the self and serving the other, always with awareness of the effects, characterizes the morally developed person.
- ? “The laws governing the universe can be made interesting and wonderful to the child, more interesting even than things in themselves, and he begins to ask: ‘What am I? What is the task of man in this wonderful universe? Do we merely live for ourselves, or is there something more for us to do? Why do we struggle and fight? What is good and evil? Where will it all end?’” (Montessori, *To Educate* 9). The philosophical nature of the human being comes to the forefront in the second plane of development. If the laws of the universe have priority at this stage, the child, knowing that laws exist in the sensorial world, now can reflect on laws in the abstract world.
- ? “At this age the concept of justice is born, simultaneously with the understanding of the relationship between one’s acts and the needs of others” (Montessori, *Education* 12). The intimate connection of knowledge to justice is an outcome of the second plane. It is only when one understands the connections between one’s acts and the needs of others that the person can be said to be morally developed.

### **Emotional Development in the Second Plane**

The emotional dimension of the human being concerns strong feelings or excitement. Emotions are referred to as the arousal of feelings, as opposed to other mental states such as cognition, volition, and awareness of physical sensations. The etymology of the word *emotion* is interesting to consider with respect to Montessori thought. The Latin is *emovere* from *e-*, “out” + *movere*, “move.” Montessori says, “Without movement there is no progress and no mental health” (*Education* 49).

The emotions form part of the total personality and states of consciousness of the person. If all aspects are in balance, the personality is in a state of mental health. So what is interesting is that movement, the basis for self-construction in the cognitive, social, and moral dimensions, can also be said to be the basis for the emotional dimension, another part of the human personality. Put another way, “the secret of a happy life is congenial work” (Montessori, *What* 101). Work that is suited to one’s needs and disposition arouses feelings of happiness and contentment, helping to support normal development or mental health. “Personal experiences carried out by reality are the basis of mental growth but also of mental health” (Montessori, *What* 63)

Aiding the process of adaptation, wherein the child finds a place in the world, is the aim of any adult effort to educate the child. Adaptation secures for the child satisfaction in life: “The child is satisfied, having found a center, a place in the totality of the universe” (Montessori, *To Educate* 8). “Sanity, balance and mental health are conditioned by harmony with the external world” (Montessori, *What* 67). Montessori speaks of the emotions as she describes the results of activity on the child: The active child is said to be “illuminated by enthusiasm” (*To Educate* 1); such children are “equipped in their whole being for the adventure of life” (*To Educate* 1); “a unit of purposeful work well achieved is an uplifting experience and a source of happiness” (*What* 61). She does not directly speak of the development of emotions but does state that desirable emotions are elicited by purposeful work.

In another demonstration of the interplay of all dimensions of the human personality, Montessori offers a description that encompasses the cognitive, moral, social, and emotional dimensions: “As they are more balanced and more capable of orienting and valuing themselves, they are characteristically calm and serene, and for that reason also easily adapt themselves to other people” (*Education* 49).

A good example of work linked to the emotional dimension at second plane is scientific experiments. With regard to experiments requiring pouring into small test tubes, measuring substances, and heating to the desired state, Montessori writes:

Calm and attention are required. The psychological effect produced on the children at this age may be compared to that of the silence lesson on the younger. The small children severely restrict their movements, while the older ones must measure their movements and must therefore pay concentrated attention to them. (*Education* 62)

With these and the many other materials that require care and attention, the children intuitively sense that they are working with materials and procedures that could create danger if they are not careful. Adaptation requires that one learn how to prevent or deal with dangerous situations. The experiments provide for adaptation by giving the child the opportunity to harness the emotions—to remain calm and at attention.

Another support to the emotional dimension of development is the patience of the adult with regard to the child: “The mind takes some time to develop interest, to be set in motion, to get warmed up into a subject, to attain a state of profitable work” (Montessori, *What* 102). “If enthusiasm is not shown we do not delay but pass on. If the enthusiasm is shown we have apparently opened a door” (Montessori, *Education* 77).

### **Summary of the Emotional Dimension**

The emotional dimension of the child is important to the process of adaptation. The adult also needs to keep emotion under control. The admonitions of Montessori are directed to aiding the child by providing an atmosphere in which the child can freely choose to work, even if this takes time and even if what we do has no immediate effect.

Following are emotional outcomes of Montessori education at the second plane of development:

- ? The children are “equipped in their whole being for the adventure of life” (Montessori, *To Educate* 1). To be emotionally invested in one’s future work is to be totally invested. It is this emotional attachment to one’s future task that is the final triumph of the elementary -age child.
- ? “As they are more balanced and more capable of orienting and valuing themselves, they are characteristically calm and serene, and for that reason also easily adapt themselves to other people” (Montessori, *Education* 49). To equate balance with calm and serenity implies the possibility that upset and disturbed emotions might unbalance the individual. All that the child undergoes in the care of the adult who knows the dimensions of the total personality contributes to balance and to a fully adapted individual.

### **Summary of All Dimensions**

It has been stated many times that Montessori is interested in total development. She formulated a theory and a practical pedagogy dedicated to the unity of the human personality, not its dissection. While it is interesting to reflect on each aspect of development to uncover its particularities, it is even more interesting to realize that if one observes that the child of the second plane seeks to know the reasons for things and seeks the company of others, and then proceeds to guide the child with this in mind, total development is achieved in all dimensions.

## References

- Csikszentmihalyi, Mihaly, & Kevin Rathunde. "The Development of the Person: An Experiential Perspective on the Ontogenesis of Psychological Complexity." *Theoretical Models of Human Development*. Ed. R.M. Lerner. New York: Wiley, 1998. Vol. 1 of *The Handbook of Child Psychology*. William Damon, ed. in chief. 5th ed. 4 vols. 1998.
- Montessori, Maria. *From Childhood to Adolescence*. 1948. Trans. Montessori Educational Research Center. New York: Schocken, 1973.
- Montessori, Maria. *To Educate the Human Potential*. 1948. Adyar, Madras, India: Kalakshetra, 1986.
- Montessori, Maria. *Education for a New World*. 1946. Adyar, Madras, India: Kalakshetra, 1963.
- Montessori, Maria. *The Formation of Man*. 1955. Trans. A.M. Joosten. Oxford, England: Clio, 1989.
- Montessori, Maria. *The Four Planes of Development*. Amsterdam: Association Montessori Internationale, 1971.
- Montessori, Maria. *The Secret of Childhood*. 1936. New York: Ballantine, 1981.
- Montessori, Maria. *Spontaneous Activity in Education*. 1917. New York: Schocken, 1965. Vol. 1 of *The Advanced Montessori Method*. 2 vols.
- Montessori, Maria. *What You Should Know about Your Child*. 1948. Adyar, Madras, India: Kalakshetra, 1966.
- Montessori, Mario, Sr. "Lecture 76 (March 24, 1944)." Unpublished. Advanced Course, Kodaikanal, India. 1943 - 44.
- Vygotsky, L.S. *The Collected Works of L.S. Vygotsky*. New York: Plenum, 1987.

# The Third Plane of Development (12 - 18)

by David Kahn

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## Introduction

Since Maria Montessori's seminal thinking about the adolescent is rooted in the land-based model, the discussion of social, moral, cognitive and emotional outcomes is based on her writings about Erdkinder. However, the outcomes as stated are generalized psychological descriptions and therefore may have applications to Montessori adolescent education in non-farm settings as well. Dr. Montessori envisioned the Erdkinder prepared environment for adolescents as a place that develops their bodies as well as their sense of social order and their expanding intellect (97-109). The prepared environment of the Erdkinder includes a working farm, a "museum of machines," a market for selling the farm's produce, gardens, natural spaces, a "hotel" (or what we would now call a bed-and-breakfast), and a home or residence for the adolescents.

While formulating the program for the farm, Montessori recognized the need for a framework of study that emerges in direct contact with real life. Real-life experiences at the farm should be rooted in the interconnectedness of this specific natural and human-built *place* for the young adolescent:

... the exploration is even wider [than in the elementary], encompassing the farm and the community of the rural area. It echoes what the children explored at the second plane: civilization and how it came about. But now the exploration takes place in reality because the adolescents are actually *doing* it. Cooperation with the land, cooperation in commerce, and cooperation in the cultural life of the rural society touch materially the things studied in the second plane and afford the adolescent the opportunity to see his or her place in society. (Margaret Stephenson, cited in *The Adolescent Colloquium* 35)

The "program for study and work" grows out of the concept of the farm as prepared environment (Montessori, Maria 111). Although the social, moral, cognitive, and emotional dimensions of the adolescent are fully integrated into living as a farm community, the following separate discussions around each dimension seek to find common ground with developmental psychology outside of Montessori education.

## Social Development

### *The Socially Prepared Environment*

Maria Montessori calls her "essential reform" of secondary education a "school of experience in the elements of social life" (107). First and foremost, work and study in the environment prepared for the adolescent would be based in economic and social understandings similar to those suggested more recently by both David Orr and David Hutchison in their descriptions of the educational value of *place*. Place builds a context for social relations; it is the staging area for human community structure, enhanced by a deep encounter with the natural world.

In his book *Ecological Literacy*, Orr emphasizes education with nature and with the community:

The idea that place could be a significant educational tool was proposed by John Dewey in an 1897 essay. Dewey proposed that we "make each of our schools an embryonic community ... with types of occupations that reflect the life of the larger society." He intended to broaden the focus of education, which he regarded as too "highly specialized, one-sided, and narrow." The school, its relations with the larger community and all of its internal functions, Dewey proposed to remake into curriculum. (127)

David Hutchison underscores Orr's principles with what he calls "the spirit of place." The spirit of place is rooted in community relationships and values implicit to "ecologically sustainable contexts":

To know one's place is to have an intimate knowledge of the local environment (both natural and built) and the various professional roles, shared histories, and interdependent relationships that sustain the community over the long term. To further strengthen children's ties to the local community, their participation in community projects that help to nurture culturally significant relationships between young and old can be fostered by way of apprenticeship-style programs and community renewal efforts that arise within ecologically sustainable contexts. (129)

Place is defined by its limits; it is immediate and on a small scale: a building, a neighborhood, a hundred acres easily walked across in a day. Place is where we live—a source for food, water, energy, materials, friends, and recreation. Place in a diminished sense is real estate, but the Erdkinder definition of place refers to the larger economic, ecological, social, political, and spiritual elements of the immediate surroundings. Place is a community to which the adolescent feels he or she both belongs and contributes.

### ***Occupations or Work as Social Activity***

Occupations, as both Maria Montessori and John Dewey envisioned them, are the point of engagement for the adolescent on the land. They are a source of meaningful work, work that will be valued by the community itself, work that challenges both the mind and the body, work that is recognized as legitimate by the culture, work that has economic validity, work that is made noble by being done with integrity and passion. Engagement leads to a sense of ownership and stewardship.

The specific nature and purpose of an occupation may inspire a student to commit to the occupation, not as part of a vague choice for the moment, but with spurts of passion about what needs to be done as part of belonging to a community. As an individual thus begins to develop a specific interest and expertise in an occupation, community recognition of the individual's contribution usually follows. The adolescent's resulting sense of pride and accomplishment matures the occupation into a role.

The transition from occupation to role is subtle. In effect, the student tries on the role and becomes immersed in the knowledge and the process of a specific calling: "I am the sugar bush builder, I am the videographer, I am the beekeeper, I am the bookkeeper." Being an interdependent part of a concrete venture, learning how to interact in order to cooperate freely, and trying on different occupations and roles matures young people and makes them useful in their own eyes.

Looking to the economic self-sufficiency of the adolescent farm community, Maria Montessori highlights economic independence as "the general principle of social education for adolescents" (104). She speaks of the "wide social connotations of productiveness and earning power" (106). She remarks that "If the produce can be used commercially this brings in the fundamental mechanism of society, that of production and exchange, on which economic life is based" (107).

Most importantly, on the farm, the work role will function for the greater good. The adolescent's desires, emotions, and attachments are tied up with the whole community—the work is connected with the social enterprise of the farm. Social aims convert an occupation into a role. Assuming a role in something implies that the occupation touches or engages a person and transforms that person, elevates that person's aims in life, validates the self, centers the personality, and adds impetus to learning. The adolescent's interest evolves into a "community task," where the student sees the work as essential to the whole. A higher socialization occurs, which is able to translate the experienced roles on the farm into a view of the collective role of humanity: the "cosmic task" of the individual and of humanity in general. The adolescent is a "social newborn," which means that the adolescent is "a newborn member of adult society, a newborn participant in adult society; he or she is newly born as one who can 'take an active part in society's productive labors or in regulation of its organization'" (Grazzini & Krumin 136).

### ***Social Outcomes***

Social outcomes for the early adolescent stage of life include these:

- ? learning to live in domestic relations with others and to work through human problems;
- ? learning what it means to make a contribution;
- ? understanding interdependency and the need to cooperate with adults and peers in relation to the rest of the world;
- ? assuming work roles and their social and cosmic implications, projecting the benefits of an active role in society;

- ? adapting to a variety of work demands for the sake of others—the beginning of social consciousness;
- ? understanding work as a product of commerce necessary to community life, leading to a beginning view of economic independence and interdependence;
- ? balancing individual initiatives in relation to community goals; and
- ? learning the meaning of rules and their importance to harmonious living.

## Moral Development

Maria Montessori points out that “the observation of nature has not only a side that is philosophical and scientific, it has a side of social experiences that leads on to the observations of civilization and the life of men ” (106, emphasis in original).

A social spirit and moral conduct permeate the developing Erdkinder. Social perception is enhanced through shared experience of common activities. In order to function as an interdependent whole, basic information needs to be exchanged, tasks need to be recorded, and skills need to be imparted to the next members of the community who come along.

All occupations on the farm give rise to communication and cooperation with an underlying perception of connection to the greater good. Companionship is ongoing; relationships to the neighbors and neighboring community are part of the social fabric of the Erdkinder community. Every member of the Erdkinder community is a learning member of an ongoing moral concern —day and night. The learning is to be shared and reflected upon, and the educational plan includes a formal place for this sharing and reflection. The fullest examination of social roles leads to an understanding of right and wrong actions in relation to work, study, the environment, and social responsibilities.

Emerging out of these maturing roles on the farm is the “more dynamic training of character and development of a clearer consciousness of social reality” (Montessori, Maria 100). Adolescent psychological characteristics described by Montessori include “a state of expectation, a tendency towards creative work and a need for strengthening of self confidence ” (101). She further ascribes to adolescents a “sensitive period when there should develop the most noble characteristics that would prepare a man to be social, that is to say, a sense of justice and a sense of personal dignity.” The occupations and roles on the land provide “an exercise of ‘utilized virtues,’ of ‘super-values’ and skills acquired beyond the limits of one ’s own particular specialization, past or future ” (103). Thus it is through the occupations and roles on the land that “valorization” of personality takes place; the students feel valued because they are making a tangible contribution. The individual student succeeds in a task by very personal effort with a sense of accomplishment arising out of the work completed and the economic benefits therein.

The philosophical adolescent mind, which has already experienced the Great Stories of evolution in the Montessori elementary program, can easily intuit that humans must all choose a way of life and ecological identity compatible with the rest of biological existence —past, present, and future. The Montessori adolescent has already well understood the philosophical arrangement of events in the history of humanity and how they are configured in human, geological, and cosmic terms. Human consciousness strives to understand human progress in evolutionary terms. Simply stated, the adolescent must know where humanity has come from and where humanity is going, especially in light of the well-being of the planet. This is not to make the Erdkinder community a place for ecological politics. Rather, the ethic of the land and its destiny is deeply personal, touching at some unconscious level the will to live and to provide for future generations. The ethic of the land and its preservation is a moral principle calling to work of the mind and heart to make sense of the world and what is most valued.

Looking at history from the ethical standpoint of our real relationship to the natural world as lived on the farm — involving the right use of water and land, plants and animals, air and energy —brings history into focus with the world’s present environmental questions and with the adolescent ’s inner sense of balance. These are moral considerations. Points of comparison with the past around questions of environment transform history from a mere logic and sequence of events to a search for answers to the moral questions about survival, about living on a planet with limited resources, and about planning lifestyles that will adapt to the scarcity of resources. History thus makes humans wiser about how they will live, both present and future. When history interfaces with formative adolescent thinking about what life will bring, it can be an inexhaustible source of motivation, identity, vocation, and morality.

## ***Moral Outcomes***

Moral outcomes for the early adolescent stage of life include these:

- ? respect for others and their roles;
- ? a sense that work is noble and the assumption of adult -like responsibilities;
- ? grappling with social and moral problems, such as the right use of the natural environment or the ethics of science;
- ? individual initiative and commitment to freely chosen work;
- ? pleasure in individual progress that enhances group progress and contributes to others;
- ? the development of a mission orientation and service to the universal needs of a larger humanity;
- ? the asking of big ethical questions —e.g., What makes for a virtuous life? How can we build a better world?; and
- ? conscience exercised by community values and responsible dialogue.

## **Cognitive Development**

### ***Place, Study, and Work***

Maria Montessori wrote, “It is impossible to fix a priori a detailed program for study and work. We can only give the general plan. This is because a program should only be drawn up gradually under the guidance of experience ” (111). Therefore it is helpful to draw on the experience of contemporary environmentalists, such as David Orr and others, who provide insight and some specific techniques for using the natural environment and its occupations to generate options for study and academic projects that will motivate adolescents and involve them in the community process. Dr. Orr refers to study of place:

The classroom and indoor laboratory are ideal environments in which to narrow reality in order to focus on bits and pieces. The study of place, by contrast, enables us to widen the focus to examine the interrelationships between disciplines and to lengthen our perception of time. (129)

Study of place refers to studying a living space framed by the interdependent “cosmic agents”—land, water, air, energy, plants and animals, and humans. The interdependencies learned in Montessori elementary take on a new sense of reality when experienced in the Erdkinder environment. The adolescent has the ability to abstract place — to perceive all at once its ecological and cultural features, its history, its present functioning, its related literacy, its convergent meanings, its future possibilities. When exploring place, the adolescent examines the natural data of the community—the flora and fauna, the archives of the region, the architectural remnants of its settlement period, and its diverse communities, each with respective unfolding histories.

But it is not until the student actually takes on real -life occupations that the cognitive process truly integrates with the social, moral, and emotional elements. Occupations not only fulfill the adolescent ’s need to belong and be valued, but they also provide the motivation for academic study: “work on the land is an introduction both to nature and to civilization and gives a limitless field for scientific and historical studies.... there is an opportunity to learn both academically and through actual experience what are the elements of social life ” (Montessori, Maria 107).

In a progression derived in part from John Dewey, an occupation leads naturally to a search for contextual knowledge (academic study):

- ? An occupation provides direct experience, which by nature is urgent, intimate, and engaging. It contrasts with symbolic experience, which can be remote, detached, and even beyond the comprehension of the adolescent. (Note the similarity to an exercise of practical life in the *Casa*.)
- ? An occupation is limited in nature. The contextual knowledge to which it leads has concrete boundaries (like the Montessori materials), keeping work and study always in relation to the surrounding environment and the specifics of the occupation.
- ? Within these limits, the occupation demands knowledge, which may involve measurement, refinement of the senses, precision, coordination, research, and, finally, expression in oral or written form. The knowledge

demanding is rigorous and, if incomplete, means that the occupation cannot be fully engaging, understood, integrated into the surrounding whole, or even completed.

The web of life (interdependencies) provides a cognitive framework. When occupations are structured around different interdependent parts of nature, a whole interdisciplinary science study emerges, which is required to inform those occupations. Here are a few examples:

- ? Work with the soil introduces both geological and biological studies. The biological applies to the teeming life in the soil. The geological aspect extends to soil's mineral content.
- ? Work with water suggests studies related to the origin of life and to earth's history. It is studied for its physical and chemical properties relevant to farming, geology, and geography.
- ? Air is studied for its role in earth's climate and in plant and animal life cycles.
- ? Energy is studied as a comprehensive force that begins with the Big Bang and has global implications as a universal human resource. It can be viewed from the standpoint of alternative technology for the production of energy available to the farm.
- ? Animals and plants are studied for their role in natural ecosystems and for their relationship to humans in agricultural science, food processing and distribution, domestication, and the history of civilization.
- ? The human organism is studied for its collaboration with the life agents and its building of human systems that are compatible with the systems found in the natural world.

The knowledge demanded for a project-based, experience-based kind of learning is not a subject to be covered, but rather knowledge to be applied for the greater good of the operating Erdkinder through the work of a common enterprise. Thus, the occupation's roots in meaningful work extend to the related contextual study and provide adolescents with the motivation to become an "expert" in their occupational area. This infuses academic work with purpose and meaning.

### ***Montessori's Educational Syllabus***

Maria Montessori's "Educational Syllabus" is not a mere subject list. She describes knowledge in psychological terms such as "opening up ways of expression," addressing the "'formative forces' in the evolution of the soul of man," or making the "individual a part of ... civilization" (115).

Montessori divides the "Educational Syllabus" into three parts (115-119). The first, "opportunities for self-expression," encompasses artistic, linguistic, and imaginative activities —music, language, and art. Next is "the 'formative' education that will construct firm foundations for the character," consisting of moral education, mathematics, and languages. Finally, "general education" is presented as "the preparation for adult life," encompassing three divisions of history: "The study of the earth and of living things" pertains to natural history; "the study of human progress and the building up of civilization" refers to the history of human achievement and technology; and, finally, "the study of the history of mankind" encompasses the physical and intellectual range of human activities: migrations, exploration, human settlement, government, and civics. Closer examination of these divisions of history suggests a myriad of intellectual studies.

### ***Cognitive Outcomes***

Cognitive outcomes for the twelve- to fifteen-year-old in an Erdkinder setting include these:

- ? opportunity for personal expression integrated within a variety of artistic, speaking, musical, and media modalities in direct relation to occupations and role development within the community;
- ? philosophical consideration of questions of nature and cosmos;
- ? analysis of scientific causality in the natural world and the cosmos;
- ? increased understanding of the mathematics directly connected to the practical needs of the farm environment and to the symbolizing of scientific observation of data;
- ? increased facility in a variety of languages and the ability to use language to penetrate different cultures and improve human understanding;

- ? ability to connect the history of life on earth and its civilizations with principles of the evolving self as well as the social evolution of a human community;
- ? a view of the whole of history and the future destiny of humans, and reflection on the individual contribution one makes to the creative direction of the future; and
- ? understanding of the nature of interdisciplinary studies, the relationship between the disciplines and the totality of the natural and human -built worlds, and the available tools and technology to continue the inquiry as to how knowledge can best be used.

Cognitive extends to all parts of human functioning; it is embedded in knowing not only the facts of the world but, in the words of Maria Montessori, “a clear picture of ‘mankind in the world ’” (cited in Montessori, Mario M. 3).

## Emotional Development

In the first chapter of the Erdkinder essays, Maria Montessori speaks of the insecurity of modern children, “We have lost that security which we had in the past ” (98), alluding to the shifting nature of modern conditions. She uses an interesting agricultural metaphor to describe the extreme changes of the world: “The world is like a piece of land that is going through the vicissitudes of a settlement of the soil ” (99).

To counter a world that has an unsure future, especially from the point of view of the adolescent, Montessori writes:

... a man must have strong character and quick wits as well as courage; he must be strengthened in his principles by moral training and he must also have a practical ability in order to face the difficulties of life. *Adaptability*—this is the most essential quality; for the progress of the world is continually opening new careers, and at the same time closing or revolutionizing the traditional types of employment.... there is a need for a more dynamic training of character and the development of a clearer consciousness of social reality. (99-100)

Adaptation at the adolescent level, because it encompasses a widening level of social reality, entails a higher level of complexity and a direct connection to emotional life. Mario M . Montessori suggests a broad definition of adaptation that is measured by an optimal state of happiness:

Dr. Montessori explained what she meant by “adaptation.” To her the word meant happiness, ease and the sort of inner equilibrium which gives a sense of security.... It is based on the permanency of the spiritual, ethical and economical equilibrium of the group environment he may grow up in. For adaptation thus considered, “stability” plays a great role, because it represents the basis from which to start towards the realization of the individual’s aspirations. It is as the solid ground is under one’s feet when walking. (1)

Referring to spiritual equilibrium or sense of balance as the basis of educational success, Maria Montessori places emphasis on the valorization (strengthening) of self -confidence, sociability, and a sense of dignity and justice (101). The greatest source of valorization is work, noble work, two forms of work—both manual and intellectual—work that is productive, work that is rooted in independence (112). Work must be freely chosen, and therefore a natural “change over” of occupations (as opposed to “units”) must provide a variety of ongoing work options as well as a time for reflection and quiet. Maria Montessori also talks about “the opening of ways of expression,” which include music, speech, drama, and art (115).

## Emotional Outcomes

As a result of engaged work, the following outcomes lead to harmonious feelings as suggested by Montessori’s keen vision of what is innermost to adolescent emotional life:

- ? revelation of the innermost “vocation” (deep calling) of the soul, a sense of mission or commitment to one’s work and life;
- ? understanding of the connection between personal vocation and the “vocation of man” (Montessori, Maria 112);
- ? feeling of self-sufficiency, of self-confidence, of taking care of self and others;
- ? inner harmony and happiness due to personal contribution, love of work, love of study and achievement, and a personal participation in the work of society;
- ? hope of future world progress;

- ? joy in seeing the relationship of one's own life with the history of human culture, recognition of the importance of being a keeper of human culture;
- ? freedom in spontaneous collaboration with others in a harmonious connection with the natural world ;
- ? feeling that human life has value and a role to play in the cosmos —a feeling of triumph;
- ? feeling of belonging to the world human community and to the earth;
- ? feeling of personal discipline, creativity, beauty, and productiveness in connection with the learning of hand-crafted art and practical achievement;
- ? feeling that one can be in control of change, internally and externally, in one's personal and social evolution;
- ? feeling of usefulness and an understanding of one's "many sided powers of adaptation" (Montessori, Maria 102); and
- ? belief in the human capacity to solve problems and in the spiritual source of life to overcome adversity.

The emotional dimension of the early adolescent stage of development (ages twelve to fifteen) might be viewed perhaps as the end state for childhood, now setting up terms for the unveiling of just what joining a society of adults really means. The work is a "great work," a natural work having the intense emotions of a "vocation," not in the career sense, but in satisfying a psychic need to meet real-life challenges, to grow, and to make a contribution to the whole of humanity.

## References

- The Adolescent Colloquium: Summary of the Proceedings.* Cleveland, OH: Montessori Teacher Education Collaborative, 1997.
- Dewey, John. *Democracy and Education: An Introduction to the Philosophy of Education.* 1916. New York: The Free Press, 1997.
- Grazzini, Camillo, & Baiba Krumins. "A Montessori Community for Adolescents." *The NAMTA Journal* 24.1 (1999, Winter): 133-165.
- Hutchison, David. *Growing Up Green: Education for Ecological Renewal.* New York: Teachers College Press, 1998.
- Montessori, Maria. *From Childhood to Adolescence.* 1948. Trans. A.M. Joosten. Rev. ed. New York: Schocken, 1976.
- Montessori, Mario M. *The Human Tendencies and Montessori Education.* 1957. Rev. ed. Amsterdam: AMI, 1966.
- Orr, David W. *Ecological Literacy: Education and the Transition to a Postmodern World.* Albany, NY: SUNY Press, 1992.