

# The Role of the Disciplines for Cosmic Education

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## DEDICATION

In 2001, Camillo and I wrote an article, "On the Subject of Subjects," which concerned the Children's House and which we regarded as the first of two related articles. The second, for Montessori Elementary, remained at the draft stage.

This talk, "The Role of the Disciplines for Cosmic Education" is, in effect, that second instalment and therefore I wish to dedicate it to Camillo Grazzini.

I would like to start with certain principles because I've been asked to talk about the integration of psychology and methodology, as well as the subject areas or disciplines. Therefore, I shall now review some basic principles that we have, principles of universal validity which therefore apply to all planes of development. We have the children, on the one hand, with their natural unfolding, and, on the other hand, we have the educational approach as a "help to life," a help to developing life. So what are these principles that always guide us?

First of all, we have to help development. This means that we never abandon the children, never abandon the adolescents; and we have to remember that helping development also means helping independence. Therefore, education is never an end unto itself; it is always a means to an end. Montessori actually says that if we can just keep remembering that, it will really help us to keep things clear and maintain a proper perspective. Thus we can understand that transmitting culture, or knowledge, for its own sake, is not our aim. From our point of view, the

process of acquiring knowledge of any kind is always a means to development; and we could, perhaps, look on cultural knowledge as psychic food, food for the hungry mind. Our deep underlying aims always have to do with development, and this explains much that may, at first sight, seem strange about the Montessori approach to education (about the methodology, if you like), at least to some people.

Secondly, there's always the importance of the prepared environment. A prepared environment permits the children or the adolescents to develop and to learn through their own activity, through their own work and experiences, through making their own discoveries, etc. And this means with adult help, not adult interference.

Thirdly, there's the importance of mixed ages: we must have a mixed age range. Montessori could not be more emphatic about this: she says that without mixed ages it would be impossible to successfully apply the method. We must also have, and this we sometimes forget, sufficiently large numbers so that the children or the adolescents find themselves with a variety, a diversity of individual types. If the groups are too small, there's a pressure for conformity, which doesn't allow the differences to emerge or to blossom.

Fourthly, there is the importance of being able to develop subconscious knowledge. This is something I believe in very strongly; something I don't feel comes across enough in the Montessori work. There are certain things that are characteristic of the first plane, that belong only to the first plane, but

the subconscious always exists throughout, and therefore we have to take it into consideration throughout all the planes. Therefore, the Montessori approach to education isn't just an education of the conscious mind, but also of the subconscious mind. Acquiring subconscious knowledge always requires time, much time; and, wrapped up with this, there's always the importance of indirect preparation and what we call the indirect aims, or underlying aims. Indeed, when we think on a very large scale, on the grand scale of the planes of development, we can actually always think of one plane preparing for the successive plane, for the following plane. This is indirect preparation on a vast scale.

Another principle that we have to remember is that learning, be it of a more practical or a more intellectual nature, always depends more on the student, on the child or adolescent, than it does on the efforts of the teacher. That is awfully easy to forget when the adults are so busy with all the work they have to do, but they have to remember that it does not really all depend on them. Adults have a certain responsibility, but so too do the students; and ultimately, it's the characteristics of the latter, of the plane that they are in, that makes the difference. Therefore, what and how much the students learn depends on the universal characteristics of the particular plane, as well as on individual differences.

And the last thing that we usually keep in mind is the analysis of difficulties. When it comes to learning something, if it's a complex ability, such as writing, we have to take it apart in some way, so that there is an isolation of difficulties. The same thing is true of complex knowledge, such as understanding the how and why of the seasons.

These principles are important because they are always valid: the idea of helping

development, of helping independence, etc. We have to know what is valid for all the planes, as well as what changes from one plane to the next.

What about the subject areas or disciplines? Montessori refers to these as *culture*. I know how the term *culture* is generally used in Italian, and I feel there is a lot of misunderstanding in the way the word *culture* is used once translated into the English language. When Montessori talks about *culture*, she really is talking about subject areas, disciplines, the existing body of human knowledge and understanding. What are our subject areas for the six-to-twelve year-olds? Listing them, we have geography, biology, history, language, maths, geometry, but also physics and chemistry, music and art. If we examine this list, we realize that, generally speaking, these subject areas come up in all the planes. They come up in the first plane, they come up in the second plane, they come up in the third plane. They do not, however, come up in the same way or form, and therefore it's a question of the approach that is used. What are the aspects offered to the children at the different ages, during the different planes?

Montessori also says it is not a question of eliminating *culture*, of cutting down on *culture*. She always says we want to offer more; not force the children in any way, but offer more. Then it is up to the children as to what they actually take up and work with. Consequently, she speaks of an expansive education, of widening the programme or content. She talks about that for the third plane as well. And her reform, therefore, includes a redistribution of *culture*, or of the subject areas, according to what is suitable to the age, the characteristics of the age. That is why, during a certain period of her life, she was talking about *psychogeometry*, *psychoarithmetic* and *psychogrammar*. In each case, we see

a subject area, a field of knowledge, which can be taken apart or analysed into various aspects that can then be related to the different psychologies of the different ages or planes.

If we are going to redistribute culture or knowledge across the planes according to the psychological characteristics, then, of course, we have to look at the relevant psychological characteristics. The first thing that we have to think of is, what kind of independence are the children or adolescents looking for? What kind of developmental tasks do they have, and therefore what is the challenge in terms of the kind of independence that they can acquire? There are different kinds of independence because the conquest of full independence is a gradual process which has to do with development and the process of becoming. Being fully independent, in fact, characterizes adulthood.

The younger children can become independent in terms of both how they function on a practical daily life basis in the immediate environment and what they know of that environment, whilst at the same time they are perfecting their powers of movement, perception and language. They can also undertake a deeper and wider exploration as long as the aspects offered permit the child to explore through movement and the senses. In this way and among other things, their language can be further enriched and a basis of knowledge acquired in relation to almost all of the subject areas mentioned earlier.

What about the six-to-twelve year-olds? These children are looking, above all, for mental and moral independence. (However, they do acquire, at the same time, a wider practical experience and independence and, once upon a time, much of this occurred quite spontaneously, as part of the natural

course of events.) Mental and moral independence is not just a matter of being able to do for oneself, but also of being able to think for oneself. And one has to think for oneself not only in connection with knowledge (knowledge that is not self-evident), but also in connection with a moral code. Consequently, one characteristic of the age is all the questioning in connection with morality. This, then, is an intellectual period of life and, for this very reason, a very important one. We find that, just as there is a parallel between the first and the third plane, there is also a parallel between the second and the fourth plane. The fourth plane is the plane of the university, which Montessori identifies with civilization, with the best that civilization has to offer. She says that, because universities are, or were, the great centres of culture, centres for the diffusion of culture, knowledge and understanding, they should be interested in the second plane, a plane which can bring into being ardent scholars and enthusiastic learners. It is a plane where the children are very strong mentally as well as physically; a stable, calm sort of plane, with uniform growth; an undivided plane. The universities should look to the period six-to-twelve because this is when the seeds of knowledge, of culture, of the sciences, have to be sown, in order to foster intellectual development. Children of this age have great mental strengths: the power of imagination, the power of reasoning, a powerful memory: great powers for assimilating knowledge, in other words. And this child's hungry mind must be nourished for optimal intellectual development, one which actually engages the whole child in all aspects of his being. Thus the second plane is indeed, as Montessori herself says, an intellectual period of developmental life.

When it comes to the imagination, the use of the imagination, Montessori actually

says that this is the time of life when there is a sort of sensitive period for the imagination. This means it is very powerful indeed. But it doesn't mean the children build this power or faculty during the second plane, because the imagination, and indeed all the human powers and faculties, have already been built during the first plane. It simply means to use the imagination. Then the question becomes, for what purposes, for the fantastic or the real? And we know that, from the Montessori point of view, we have to be concerned with reality. We can leave the fantastic to the children themselves; that is their own private business. We don't need to meddle with anybody's fantasy, or feed it; we don't need to *teach* anybody fantasy.

Montessori also says that, during the years six-to-twelve, there exists a sensitive period for culture. There's that word again, but we always have to interpret Montessori's culture as knowledge and understanding. These children are seeking knowledge and understanding. The sensitivity for culture has to do with seeking the knowledge and understanding of the world and how the world functions, of human society and how human society functions. To express this in another way, the children are looking for a knowledge and understanding of nature and supernature. It is during this plane that the mind reaches a more abstract level of thinking, of questioning, of reasoning. Montessori says this is when the abstract plane of the mind is organized and really, if you think about it, that has to be so. Firstly, because they are looking for mental independence: they want to think for themselves, reason things out for themselves, work things out for themselves. Secondly, because they want to do all this in the context of a reality which is largely out of physical reach and has to be seen mentally.

With regard to morality, it is also there

for independence. We know it has to do with a conscience, developing a conscience, a sense of what is right and what is wrong, a sense of fairness, etc. Montessori says that this, too, is a sensitive period during the second plane. She also says that, with regard to this, the adults must be especially careful because here is where the children are particularly vulnerable and sensitive.

Socially speaking, these children are more interested in their peers, and they build what Montessori calls a practice society. This is not an adult society as we know it, which is what the adolescents are trying to live. But it is what we may well call a practice society: it has its agreed-upon community rules, with people abiding by the rules; it has its work that is shared, with children collaborating together in their work. Montessori points out how association of this kind brings new strength and stimulates new energies; and that it helps with the process of thinking and understanding, as well as with action and physical work.

Emotionally speaking, what is important is self-respect or self-esteem. Self-respect or self-esteem always depends on being able to do for oneself, think for oneself, decide for oneself. It has to do with independence, knowing that you have capacities and competencies; that you can contribute and help others rather than always needing help from others.

However, in the end, what stands out above all else, says Montessori, is the hungry mind, the mind that is hungry for knowledge and for understanding.

Perhaps now is an appropriate time to illustrate indirect preparation across the planes of development. To develop a healthy moral sense in the second plane, it is important for the children to have experienced love and security during the first plane. When you develop a moral sense that is not based

on an earlier sense of what you might call unconditional love and on a sense of emotional security, then you can get some very strange, harsh things developing when it comes to morality and relations with others. Certainly, for someone without a sense of inner security, it is very difficult to tolerate, never mind enjoy, difference and diversity. Yet difference and diversity is exactly what we want elementary children to appreciate, and how can they become citizens of the world otherwise? Another example, the more contact with reality the children have had in the first plane, the better their imaginations will be able to function in the second plane. Thus I think you have to look for the surprises and the paradoxes: you get these surprising preparations, such as reality preparing for the imagination, or love preparing for morality. But when you think about it, it isn't really so surprising or such a paradox.

The particular Montessori approach to education for childhood, education for the six-to-twelve year-olds which means for the second plane of development, is called, as we all know, cosmic education. From a Montessori point of view, we can only call the second plane of education cosmic education, and no other plane can be identified in this way. (Despite all sorts of weird things we may come across, there is no such thing as cosmic education for zero-to-three or three-to-six or, indeed, for ages older than twelve.) The very term that we use, cosmic, tells us that this particular education or approach has to do with the cosmos, with the universe. Mario Montessori talks about how, originally, Maria Montessori and he thought of calling it telluric education, meaning to do with the earth, but then they decided even that wasn't enough, because the earth is not the greatest whole. The earth, too, exists in its environment, which is the environment of space or the universe. Hence,

cosmic education.

Cosmic education means that we have to take a particular approach to the disciplines or subject areas which I listed earlier. Therefore we deal with all of them, but not in the way we would have done them at school. They are absolutely necessary because they are going to answer to the intellectual developmental needs of this child, which always have to do with understanding the world, how it functions, etc. However, the latter is our focus and this determines the approach that we have to take. Therefore, we cannot consider the disciplines on their own, in isolation; but we do, of course, use them in order to answer the children's questions, both spoken and unspoken. When I say we use the subject areas, I mean the adults use them, the materials use them, the children use them. After all, what exactly are these disciplines or subject areas? They are simply human knowledge ordered or classified in a particular way. Aren't we fortunate that we can benefit from all the work and discoveries of other human beings? And if we cannot find all of the answer we seek under one heading, we shall seek it under other headings as well.

Then, in order to lead the children into their work and exploration, we know that we have special stories, the great stories or cosmic fables. (We can tell the children many stories but only a few of them can be called cosmic fables.) Let us now consider these special stories. We have a story of the universe and the earth which connects with *geography*. It is interesting to think that the word *geography*, which sounds rather technical, actually means having to do with the earth. In other words, it all becomes very simple if you think etymologically: *geo-* means the earth and *-graphy* means writings. Saying *geography* conjures up all sorts of things in one's mind from school but, if you

say the story of the universe and the earth, and what the earth is made up of, and how the earth functions in its various parts, etc, it all sounds very different.

We have a story of the evolution of life, which connects with biology or the exploration of animals and plants: how they live and function, the work they do for themselves and for others, how they can be grouped or classified, how they interrelate between themselves and with the Earth, etc.

We have the story of human beings, which obviously connects with human history. Once we start delving into the history of human beings, we have to think about the children's needs to understand human society and how it functions. So we have other stories: the story of early human beings, which has to do with the Old Stone Age or the Paleolithic; the story of human beings settling down, and changing their way of life to an agricultural way of life (so relevant for the adolescents) which is the Neolithic; the human beings who start to live in towns and cities, which we associate with civilization and a very different way of life, the urban way of life.

Then, for language we have the story of the development of written language, which we in Bergamo call the "Story of the Ox and the House," and for maths, we have a story of numbers. Thus, the subject areas or disciplines of language and mathematics (in its three branches of arithmetic, geometry, and algebra) are also represented by their great stories or cosmic fables. Quite rightly so, considering that these disciplines are inherently related to outstanding innate characteristics of the human being. (There is also a sixth and last great story or cosmic fable, "The Great River." This, however, has very special characteristics of its own and stands somewhat apart from the other fables, which form a strictly sequential set. Nonetheless

the sixth fable, too, lies at the heart of cosmic education, and although it clearly relates to biology, it is also highly relevant for human/economic geography and human history.)

With this approach that we call cosmic education, we always use the disciplines, but we are not ruled by the way the disciplines are organized or divided, either individually or in their entirety. What then are we looking for, what do we wish to achieve? When we use this approach, starting with the story of the universe and working our way through to the stories of language and maths, we are starting with the greatest whole and we pass from one whole to another, in other words, we find wholes within wholes. This sequencing must not be confused with another sequential principle we use, which is from the whole to the detail. In other words, we have to look on the sequencing of the cosmic fables as being quite distinct from the procedure known as from the whole to the detail. We must not think of a later cosmic fable as being a detail of an earlier cosmic fable. Let us take as our example the greatest whole, which is that of the universe, how the universe, and sun and earth came into existence. This, as we know, is given to the children in the form of a special story, the first cosmic fable called "God Who Has No Hands," and the story leads the children into exploring geography, that is to say, the various aspects of our planet earth: the family it belongs to; what it is made up of from various points of view; the different forces of attraction; the earth's relationship with the sun and the phenomena of day and night, and the seasons; the how and why of wind and rain, etc. It is as we pass from the story, which gives a grand and clear vision of the whole, to exploring the subject area that we pass from the whole to the detail. However, when we pass to "The Story of Life," that is not a detail, it is another whole. It is a smaller

whole, if you like; it came later, because Life needs the environment of the earth, of the earth in space. But Life transforms the earth; Life is, indeed, a great cosmic agent of creation.

To come back to the original question, what do we achieve with this approach? We offer the children a very grand vision indeed: of the greatest whole, then of a new whole, another new whole, and so on. The grandeur and clarity of the stories fascinate and enchant the child: the stories captivate the mind, which can picture the whole each time; and they touch the child emotionally, such that he can feel a sense of wonder and awe. The interest evoked can be deep, passionate, lasting, and the desire to find out more is driven from within. The child's mind is focused, and he finds himself at one with the universe, the earth, life, etc.

With "The Story of the Coming of Human Beings," we focus on what we all share, on what makes us all special; but then we also have to help the children understand human beings in their different groups, as they are found in the different parts of the world. We have to help the children see how supernature came about through human work. As humans worked in order to satisfy their needs, so they gradually built a supernature: this strange man-made world in which we live and which is not the world of nature, but a world built onto or above nature. It came about through the power of human work. (And this is also important for the adolescents; it is in line with what Montessori says adolescents should be offered.) Supernature also came about through the circulation of ideas, of knowledge and discoveries. In every part of the world, human groups made their own discoveries, but that, by itself, could not really have a big impact until all the ideas and the discoveries and the inventions were put into circulation. And they were first put into

circulation through migration, because the ideas travelled with people, and those people moved: first on their feet, then with the help of animal power. Today, as we very well know, ideas can be put into circulation immediately in a disembodied fashion; we can hear about them immediately, because we no longer depend on people actually travelling from one part of the world to another.

When the disciplines are used in this way for cosmic education, when they are not isolated, not compartmentalized, not treated as an end unto themselves, then the children can come to understand and appreciate many things. They can appreciate the order and unity of the universe, or the perfection of nature in its imperfections; and that means appreciating law and order on a cosmic scale. They can appreciate the importance of work in all of its forms; the importance of collaboration and work done for others; the interrelationships and interdependencies of all things, including human society. I have to emphasize that the human society that exists today is already interdependent; we all depend on one another. What we have to do is to recognize this, and help the children to see this. We may have to build solidarity from a psychological point of view, but the actual interdependence on an economic level does already exist. It is not only that everyone in Cleveland depends on everyone else in Cleveland, in order to eat, in order to get from one place to another, indeed in order to do anything at all; but the people of Cleveland also depend on the other people in the United States, and on the people of other countries as well. You don't just depend on your own country, you depend on all the other countries too. To understand that, it is enough to think of all that is imported into the States. Thus what has happened is that, starting from very simple societies, we have reached our present-day societies which are

so interdependent that Montessori actually calls us all a *single nation*. We are all one great nation; that is what we already are, if only we could see it. The expression Montessori uses is *la nazione unica*, and we usually translate that as the single nation of humanity. The children, too, can understand all this, and therefore understand the possibility of all of us living together in a harmonious way.

If the children are to reach this kind of understanding and their developmental needs are to be met, we have to offer the subjects to the children in an integrated way and not in isolation. Only then can the children of the second plane come to appreciate all human beings, as well as all aspects of nature. We can look on all human beings as our benefactors: not only the human beings who are alive today and from whom we receive so much; but also the human beings of the past, from whom we have inherited so much. My own favourite examples of this kind of human inheritance have to do with the "Story of the Ox and the House" and "The Story of Numbers." The very letters of the alphabet that we use, and millions of people use this same alphabet, can be traced back to three thousand or more years ago. But nobody ever stops to think that the letters you are writing right now started off as little pictures; that it was a small group of people who devised them for a fast way of recording; that we inherited them from such a long time ago and use them to this very day, and so will the future generations. And the situation is analogous for the digits that we use for writing all our numbers.

So what does all this mean? It means that the subject areas or disciplines are presented to children in a very special way: one that is holistic and centred. The centering axis of cosmic education, which Montessori herself identifies as Man in the Universe, serves to

focus or centre the child, both his mind and his feelings, and it also orientates him. Culture, cultural knowledge, constitutes a vast body of knowledge. Earlier, we saw the vast sea of life, but there is also a vast sea of knowledge. It is so vast that the children need a kind of orientation or guide; and the way they are introduced to the disciplines (with the cosmic fables) really constitutes an orientation or a guide, with the help of which they can undertake a great voyage of exploration. No matter how widely the children explore or how deeply they penetrate culture (cultural knowledge), the initial orientation and vision lends unity to all that the children discover.

Thus cosmic education is also, and in a general sense, an education through the telling of stories; and the second plane is the right age for this kind of storytelling. These are the children who can gain entry to areas of knowledge and begin to grasp great truths through stories, knowledge and truths that might otherwise be difficult to grasp. Stories permit these children to use their mental strengths; they appeal to the child's imagination; they render knowledge accessible to the child's mind; they permit the children to explore through their emotions. Above all, great and living truths can grow within and with the children, and help them in their mental and moral development. Of course, we do not depend on stories alone; we have to help the working of the child's mind and imagination in other ways as well, as we know. Therefore we have developmental aids of all kinds for the children: for example, there are experiments and materials which function as aids to the imagination. But we do have to offer these stories which, Montessori says, can be as fantastic as fairy tales but are actually stories of truth. We have to present them, offer them, in such a manner that, over time and



in conjunction with all the exploration which follows, great underlying realities are gradually brought to the surface so that the child can see the goodness of nature and the goodness of human beings. Human beings aren't just bad and destructive; and if you are always told as a child that human beings have destroyed this and destroyed that, what will the consequences be? I think you have to be a little older and stronger, a little more mature, to deal with that destructive aspect. Human beings are also good and, through their work, have created much that is marvellous and good. Who wants to belong to the human nation, to humanity, if you keep hearing how horrible and disgusting human beings are? We want the children to feel that they belong both to the earth and to humanity; that they can legitimately feel a sense of wonder; that they can feel gratitude to nature or to God, and to human beings. Thus the child sees that he belongs to, and is part of, the universe, earth, life; that he belongs to, and is part of, a great human nation or society. From this point of view, the very sequence of the fables is crucially important because, as we will see more clearly when we consider history in greater detail, the educational approach is very special and quite different if we always start from the greatest relevant whole. The emphasis is totally different if you start with the universe rather than with your own country, or indeed your town and region.

The whole cosmic approach that I have been discussing is absolutely marvellous, but all the cosmic fables and much of the exploration which follows can be done with, and by, six-to-nine year-olds. Where does that leave the nine-to-twelve year-olds? I don't believe that one can endlessly repeat the story of "God Who Has No Hands" for six years of the child's life; that every year he is going to hear the story of "God Who Has No Hands" and nothing else. And I think that it is really

important for us, on our elementary training courses, to start catering more to the nine-to-twelve year-olds. If we are interested in adolescents, don't the nine-to-twelve year-olds become terribly important? In this regard, I want to quote Mario Montessori. This is taken from an article called "Keys to the World," where he talks about the six-to-twelve year-olds:

... at least in the beginning, the study of isolated subjects did not arouse interest. The children seemed to be keen on acquiring a more complete vision than could be provided by one subject isolated from others. For instance, in the study of botany..., when told that out of carbon and water sugars and starches were manufactured by the leaves, the children expressed disbelief. It seemed ridiculous to them that sugar could contain "coal," but they were convinced when they saw some sugar transform itself into a fuming mass of the blackest coal under their eyes, after sulphuric acid had been poured over it. In order to respond to the various questions and to dispel children's doubts when teaching any one of the subjects, it became necessary to resort to the aid of other subjects. This more complete vision aroused the intense interest that the isolated subject was unable to excite. Prolonged activity followed the interest.

Here we have an example of how physics and chemistry actually support the work in geography and biology. However, Mario also says this:

These and other experiments were isolated items to illustrate any point in another subject which interested the child at that particular moment. Soon, however, the desire for further knowledge channelled the activity of the children into the special science the experiment formed part of.

Over time, the children actually became interested in chemistry as such, physics as such. And then, says Mario: 'A small suitable library for each subject was provided by the school itself or by the parents of the children.' I think we can all agree, generally speaking, that we are not offering physics as such, or chemistry as such, to the nine-to-twelve year-olds; therefore, obviously something needs to be done about that on our courses.

Now, to reinforce that, I want to give you a quote from Maria Montessori. This is taken from a letter which was given to all the trainers at the last Trainers' Meeting (2004). It is a letter written by Maria Montessori to a Mr Nino Bobba, and it is dated December 3, 1947. She wrote this letter in reply to a group of Italians who wanted to set up a training centre and generally promote Montessori education in post-war Italy. At the end of the letter, she writes this: 'The foundation of a special school for children of 6-12 years would also be necessary.' As I continue to read Montessori's words, please remember this is 1947 and therefore not an early period of Montessori's thinking; she is saying this less than five years before she died. 'It would have to possess special laboratories for physics and chemistry, biology and geography, etc., allowing practical experience in addition to studying books. For this type of school, secondary school teachers would be more suitable than elementary school teachers.' This means that she is already looking to specialists\*, presumably for the benefit of the nine-to-twelve year-olds. Montessori continues as follows:

Apart from psychology and pedagogy, the students preparing themselves to teach in these schools should study the following subjects: mathematics, history, geography, physics and chemistry, biology, and a specialized study of language. All these subjects should be

directed towards a single centre which on the one hand concerns the psychology of the child during this period of life, and on the other, that which we refer to as "the cosmic plan of education." This cosmic plan tends to direct all subjects of study towards a unity (Man in the Universe), whilst today, the different subjects are considered as an accumulation of unrelated bits of information.

\*Postscript: To avoid misunderstanding, I wish to explain that secondary school teachers in Italy were, and are, required to have university training, which inevitably involves specialist training. That means these individuals have both acquired specialist knowledge in a particular discipline, or several related disciplines, and also demonstrated a general ability to study in great depth. If Montessori says that secondary school teachers would be more suitable than elementary school teachers, it means that she wants the Montessori elementary teachers to have this kind of prior preparation and educational background. Furthermore, we have to remember that Maria Montessori often says that Montessori twelve-year-olds are several years ahead in knowledge; in other words, that they know as much as adolescents who are several years older.

Therefore, when I use the word specialists in the context of elementary, I am speaking about the preparation of Montessori elementary teachers and I am not suggesting that we should increase the number of teachers for the same group of children. (For further discussion of this topic, see "The Role of the Specialist" in AMI Communications 2006/2.)

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REFERENCE

"Keys to the World: The Second Plane of Education." Summary of lectures by Mario M. Montessori, Hilversum, Netherlands, 1955, with an introduction by Camillo Grazzini. *AMI Communications*, 1998/4, pp. 15-21