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NATURE IN EDUCATION



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Editorial

Many of the Montessori community are looking forward to the International Montessori Congress in Portland, Oregon. Its theme, “Guided by Nature”, is at the very heart of how Maria Montessori formed her ideas: it was in response to the natural development of children she observed and worked with that she was guided. Approach and materials were constantly fine-tuned, taking their cue from the children.

In 1913, when Montessori held her first international teacher training course in Rome, she had already built a sound basis of her core material and her philosophy. She advocated the rights of the child and opportunities for their optimal development with passion and eloquence.

During that 1913 course her arguments would always return to the child’s nature. In several lectures she would also draw in Nature’s power and show how traditional education viewed this aspect.

In the lecture which this AMI Journal supplement is featuring “Nature in Education”, Maria Montessori brings together physical and psychological nature. She discusses the experiment with the wild boy of Aveyron, conducted by French physician Jean-Marc Gaspard Itard and how she herself was greatly influenced by him and Séguin. She discusses the ideas on nature voiced by Tolstoy and Rousseau. But she also speaks strongly on fostering a good relationship between nature and the human being, starting in early childhood. She puts forward that children should not only be taken outside to make sure they get fresh air and sunshine, but should be given every opportunity to engage with nature and feel the wonder of its mysteries.

This lecture is part of a collection of lectures from the 1913 international training course that have recently been edited, and published. In her foreword to the book, main editor Dr Susan Feez writes,

From the social and intellectual turmoil of the late nineteenth century came a generation of innovators who can reasonably be credited with inventing the future we now take for granted. This generation left few areas of human experience unchanged. While Marconi and Bell were revolutionizing communications, the Wright brothers were taking to the skies, Einstein, Rutherford, Curie and Bohr were re-inventing physics, Stravinsky, Proust and Picasso were re-calibrating the arts, and psychology, sociology, anthropology and linguistics—the social sciences—were being established in a form we still recognize today by Freud, Jung, Durkheim, Weber, Malinowski and Saussure. Moreover, the boundaries between art, science and social science were still fluid. Visual artists and poets were fascinated with dreams and abnormal psychology, and psychologists wrote dramatic and fictional works; everywhere there was experimentation with new ways of communicating what it means to be human. The reformist ideals of the pre-war era echo through Maria Montessori's 1913 lectures. A common thread is her emphasis on improving the welfare of children by providing an environment to support their physical and mental development. Throughout her formative years as a young physician, Maria Montessori had worked with children from disadvantaged socioeconomic and educational backgrounds. Providing children with conditions that supported their health and physical well being was for Maria Montessori an important contribution to the freedom she believed children needed for optimum development.

The lecture “Nature in Education” has woven all those aspects together into an unmistakably Montessorian fabric. We hope you will enjoy this lecture, and thank the Montessori-Pierson Publishing Company for their courtesy to include this lecture in this supplement of the *AMI Journal*.

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Nature in Education

A lecture given on 27 March 1913

Maria Montessori

The importance of nature is one of the deepest questions we have to address in education and it is also one of the best studied and most commonly applied subjects in various current methods. A great measure of today's progress can be summed up as follows: that humankind has made peace with and therefore has come into touch with nature. This question needs no special development on my part, because it is an intrinsic part of our method.

The great idea of freedom that Jean J. Rousseau¹ developed was to put the child in contact with nature and to let him grow up under the influence of nature itself. It is Rousseau's well-known concept that humans spoil the divine work, which is why we have to leave the child in the hands of God, to leave the child to that freedom which consists of non-action – in this case, rather in isolation from human society.

As you will know, Rousseau's ideal was only put into practice in his novels. Tolstoy, in his concept of freedom, has a similar idea. He would have modern humans, city dwellers, return to a kind of society where they would be confined to work in the field. Then they would also be beyond the reach of all those forces of evil, which we find in every city, and they would be led back to a simple life, to tilling the earth. Tolstoy also wished to establish pedagogical methods on this basis and so attempted a sort of reform of humankind.

Instead of these ideas that are so well known, I would like to discuss a pedagogical work less well known to the majority of people interested in pedagogy. From the point of view of nature, it might be of particular experimental importance: the work of Itard on the education of the wild boy of Aveyron. In this case we do not start from a theory, an ideal, but we are dealing with a fact. Itard² studied a child who really lived alone,

1 Jean-Jacques Rousseau (1712–1778) was a Genevan philosopher, writer, and composer. His political philosophy influenced the French Revolution as well as the overall development of modern political, sociological, and educational thought. Rousseau's novel *Émile: or, On Education* is a treatise on the education of the whole person for citizenship. Rousseau's philosophy of education is not concerned with particular techniques of imparting information and concepts, but rather with developing the pupil's character and moral sense. The hypothetical boy, *Émile*, is to be raised in the countryside, which, Rousseau believes, is a more natural and healthy environment than the city, under the guardianship of a tutor who will guide him through various learning experiences. Rousseau was one of the first to advocate developmentally appropriate education. https://en.wikipedia.org/wiki/Jean-Jacques_Rousseau, accessed on 22 May 2013.

2 Jean-Marc Gaspard Itard (1774–1838) is remembered for his work with the wild child of Aveyron. Montessori first became interested in pedagogy when she began working with children who were categorised as *deficient*, or *idiots*. Her search for pedagogical treatment for intellectual deficiency led her to two French doctors, Itard and Séguin, 'the two great doctors who anticipated her in the yoking together of medicine and pedagogy' (Boyd W. From *Locke to Montessori*. London: George Harrap, 1914, p. 17).

isolated from human society, far from the city, in the country in intimate touch with nature. And this rare creature, a child grown up in abandonment in the heart of nature, was studied by Itard, not only as an individual, but as part of a veritable pedagogical experiment. This experiment was opposite to the ideas put forward by Rousseau and Tolstoy, and it led into social life a child grown up wild in nature and had him take part in civilization.

People with great interest in pedagogy may like to hear more about these contrasting ideas: on the one hand, we talk about taking humans from their current position and placing them in an inferior state; and on the other hand, we see the authentic case of a human being who is led from an extremely inferior state to a civilized life by slight pedagogic efforts, crowned with results which can be regarded as the first milestone in the new science of experimental pedagogy.

This child, educated by Itard, and whose life was the basis of Itard's pedagogical ideas, further developed by Séguin and continued by me, can be studied or analysed under two different headings: the contemplation of the greatest joy which nature in itself can give to a human who may not have been highly endowed with sentiment and intelligence. An example of a human being so low on this scale was the wild boy of Aveyron. Without doubt, this child had attained a degree of sensitiveness in the enjoyment of all natural facts which we have not reached: for example the enjoyment which may be had from a storm, the snow, the moon, the silence of the countryside, the various sounds of nature. All these facts, to which the sensitiveness of urban humans has been numbed, were of such joy to this idiot child that the description of the expression of his feelings has qualities which reach the point of poetry; for example, when Itard describes the boy passing a whole evening seated on the edge of a fountain watching the dead leaves fall upon the water and, as if held by a melancholy reminiscence, at intervals heaving a sigh which later becomes a sound of lamentation; or when he passes a whole night with his head pressed against the window panes because a moonbeam awakened him; or when the boy, waking up in the middle of the night, notices that the snow is falling, and, unable to remain shut in, goes out to plunge himself in the snow.

On the other hand, this child, who is so hardened and can physically endure so much that he can stand naked in the snow, breast the storm, stay out in the rain without suffering any physical harm, but rather experiences keen delight, this child has great dislikes. He does not know how to endure what humans suffer when changing to civilized life. For example, this child cannot cope with having hot food served at a regular hour, while being seated, and having to use knives and forks, etc. He cannot endure the restrictions of clothing with which we conceal our body from nature and guard it from the sun, cold, rain, etc. He cannot bridle his impulse to run when he should walk correctly as is necessary in a city; he cannot restrain the outbursts of his voice and bring it within the limited modulation of speech. Here we have a living demonstration of how we sacrifice the life of nature so as to live a civilized life. These sacrifices relate to details of constriction, of limitation, and might be called the sacrifice of the natural life of our body – a sacrifice which consists of keeping our body from immersing itself in the benefits which nature would give. Itard, who was very fond of this child and who in

relating his pupil's story so vividly, described these two aspects of natural and civilized life. Itard was very keen that the child adapted himself to civilized life, feeling certain that this would be of great benefit. He was driven by the belief that this wild boy would realize it as such. As an educator he actually attained this great and glorious aim, for the child did come to prefer the benefits of social life to those intense joys that he had experienced in nature. That what most urges children toward civilized life is the love they bear to the persons who educate them, and, little by little, the possibility of tasting some of the comforts which are undoubtedly an aid to civilized life.

The detailed description of how this wild boy was changed into a civilized man should form one of the most important and fundamental studies for those who are interested in education, especially in education with reference to nature, and one day Itard's book will be considered a classic for all educators. From a certain point of view, we can say that all children represent what the wild boy of Aveyron represented to Itard: apparently, all children are born predestined to the life of nature and they must all, through the process of education, adapt themselves to the life of civilization.

To know in what measure this road must be trod, this is what should interest all of us. Not only those concerned with education, but any civilized individual.

It is generally believed that these two ideas are opposed to each other and this is precisely argued by Rousseau and Tolstoy: that we apparently must have two completely separate ways of life, being almost forced to choose between a life lived in collectivity and in a civilized society, and the, possibly, better way of leading the absolute life of nature. Maximum perfection in education and in life itself must be found in a harmonious union of these two different lives, which today is not only understood but also put into practice. To place humans in contact with nature can never be a useless act, for in order to live well humans must get in touch with nature.

In recent times many experiments, also of a general biological importance, have been carried out researching life in general in its relation to nature: for example, the stimulating effect of the sun's rays, the effects of certain lights on the life of microbes and on cellular life. When, under experimental conditions, the embryos of some animals were insulated from the earth's electromagnetic field, it appeared that, for this reason alone, these developing beings contracted rickets. This led to the conclusion that human beings do not live by nourishment and oxygen alone, as we have carelessly thought, but they live by means of many other natural elements. Being in contact with the earth, the sun, and the vegetable life of plants is like drinking from the very springs of our life. And these principles, which we might call materialistic and physiological, are just now appearing on the pedagogical horizon, and are not confined to the medical world alone.

Feeble children can gain strength by being exposed at length to the sun's rays or by lying stretched out for a long time in the grass. Thus, it is clear that the rays of the sun, the magnetism of the earth and of the living grass are an aid to life.

We know, for example, that tuberculosis can be cured by ultra-violet rays of the sun at a given height; we also know that everything that helps strengthen a weak person will all the more strengthen a strong person: the means we first studied in order to aid

feeble life are the very same which should assist normal life.

Today we see a strong tendency to have normal children experience certain therapies that are no longer constitutionally relevant, but inspired by educational goals, to put them in touch with nature. We see children who go lightly clad, children who must stay at the seaside not in order to bathe, as was once the sole reason, but to be exposed to the effect of iodine and of the sun's rays. We see children taught to sleep on the ground, and in the open air, and all of these experiences are meant to place the child and the budding life in contact with life-giving forces of nature.

We can also see a more advanced step being taken in no longer shielding children from sudden atmospheric and meteorological changes. Formerly we were afraid to let children walk in the rain or breast the storm; now we know that one of the greatest instincts of childhood is to be able to run out into the rain without an umbrella. And from this point of view too, educational means are being formed to render humans stronger.

Creating public gardens wherever possible in the cities also shows us a real tendency to have people reconnect with nature, so that they only have to make sacrifices that are absolutely necessary to city life.

But that part which most closely concerns education is that which refers to the spiritual life of the child, and to the influence which nature has over this life. The effects of nature considered thus far would be merely material, but the good we receive from nature is not alone a material benefit, it is also a great intellectual and, moreover, a spiritual benefit.

For example, the spiritual life of a peasant and that of a miner are profoundly different, however intelligent and cultured they may both be. The more intense and richer spiritual life of the peasant is directly related to interaction with the forms of natural life that abound in the country environment. In the miner's case we can only observe the withdrawal of every form of life except the human one, which is so limited for this type of labourer.

The contemplation of the marvellous phenomena of life makes a great impression, and this even a child can understand. This is a fact so well known that entire systems of education for small children have been founded on precisely this principle: the influence of the unfolding of natural life before the mind of a child. An English lady developed her method of education for children based on this: that the child must cultivate plants, care for animals, watch the phenomena of vegetation and of growth, follow them, and in this way gain the marvellous conception of the mystery of life which in all nature develops of itself.³ These would also feed a religious sentiment, or at least religious feelings would be fostered; understanding the life of plants in relation to the external facts of the environment would provide so many aids to the child's learning. And lastly, gathering plants and knowing how to cook them would be another means of general culture. These attempts have been successful, especially in England. They have gone

3 This probably refers to Lucy R. Latter, who wrote the book *School Gardening for Little Children* (1906), and whose philosophy also greatly influenced Alice Franchetti. Alice and her husband Leopoldo Franchetti were major supporters of Maria Montessori. They encouraged her to write her first book, and greatly assisted with its publication.

beyond the experimental stage and are noteworthy facts and definitely of the greatest importance in the formation of inner life.

Schools and teachers should not be the only ones to know and apply this approach, whose principles on the contrary should be adopted very broadly. For example, when children are taken to a public park, the mothers talk very little with their children and do not allow them to get a sense of nature, which is to be seen in the plants around, in the ponds where the water lilies are about to bud. Their only care is that the little ones run and that they get as much sun and air as possible. The realization that children in our parks should imbibe not only air and sunshine, but also a feeling of the mystery and of the beauty of life, is something which the general public must yet acquire, but which is something already known to all intelligent teachers.

Thus, I too, have welcomed for our children these means of education already so well applied, consisting in cultivating plants and in caring for and bringing up animals. We, like others, have observed joy and unusual interest on the part of the child. For example, our teachers tell of the deep emotion some children experience in seeing the chicken come out of its shell or in noticing one morning that there are two little chicks where there was none before. I myself have seen the contemplative faces of children of four who see a large red rose open in a vase where the evening before there were only buds.

Surely all these signs of emotion are of great educational value. Children can gain such an understanding of this mysterious wonder that they credit it with powers to comfort the inner life. One day a lady, whom the children knew to be in sorrow, came to visit the Casa dei Bambini. As they did not want to comfort her with words, they took her by the hand and led her to see a growing plant.

The importance of nature in the development of the physical and intellectual life is all the more significant to us in the method which I promote, because when a child has been prepared to observe the environment by means of the didactic material we give him, the intellect of that child is largely formed. And one of the aims and forms of education, as offered within the scope of the method which I expound, is that of guiding a child, indirectly, to know how to observe to the greatest possible degree, and then to wait for the subsequent spontaneous manifestations. Contrary to others who make use of nature in order to form the inner life of a child, we do not wish to teach the child too directly to observe nature. We leave children to observe by themselves and only try to give them the means and the capacity to observe, and when we see that they are not yet able to observe natural facts, we do not make them, although we do continue our work which should turn them into observers. When children succeed in being interested in and in observing the phenomena of nature of their own accord, then we may be certain that nature will have a great influence on children themselves.

This is a delicate task, for if we follow the traditional practice of describing flowers and plants, they become distasteful to children because they have to make an effort to understand the details. We thus stifle in children the possibility of eventually observing flowers and plants. If instead we give them the principles which will enable them to observe these flowers, they will stop to observe with wonder all the particulars relative

to these flowers and experience great joy. If we know how to cultivate this tendency, this thirst which gives them the delight of being a discoverer, then it is enough to put children in contact with nature for them to observe. This very different criterion in our method consists only of a special educational technique, which tends to prepare children to enjoy nature.

To enjoy nature is a privilege that does not depend alone on whether a human being is brought into contact with nature. It is a privilege which depends on the inner formation of the human spirit. It is not the fact that today people are put in closer touch with nature in so many various ways that we see a generation inspired by nature. It was not their education that took into account that care of the spirit that leads one to enjoy and observe the natural environment.

We have two groups of great observers of nature: first scientists, and then those endowed by nature, whom we call artists. Both scientists and artists have the power of tirelessly observing, nay, enjoying the most minute details of natural objects, minute details which escape the eyes of others who are just as close to the same natural phenomena. This illustrates that real eyes only are not enough to see that which exists, but one needs an inner spiritual preparation to see and to enjoy.

Someone well known for his love of nature and his ability to see the most delicate details of natural objects was neither scientist nor artist. He was a saint, St. Francis of Assisi, who was the greatest admirer, lover and observer of nature because of the spiritual preparation which in him was very profound and personal, and manifested itself in a sort of love of nature of a different kind, a love he may well share with scientists and artists. In closing I should like to read to you St. Francis's description of the cicada, for this will illustrate how this refinement of the spirit helps one to see some details which, for example, a scientist, armed with instruments and guided by a rigid scientific method, could not see; minute details that may appear very vivid to the eyes of one who is spiritually alert.

In St. Francis's words, the cicada says, 'Who gave me these light little feet provided with compact and flexible little bones, so as to jump easily from branch to branch, from twig to twig? He gave me eyes also, those crystalline globelets which turn and look before and behind to spy out all my enemies. And He gave me wings, soft golden tissue, green and blue, reflecting the colour of the sky and of the trees. Joyfully I flap my wings in a way unequalled by the lark or the nightingale...'

This is a fine example showing that spiritual preparation for true observation of life can combine in one person the powers of the scientist, the inspiration of the poet, and the language of the Saint whose words we have just heard. In such a case we see an analogous preparation unfolding: the formation of the inner individual which gives material for developing the intellect, so that the individual may know how to express his ideas with greater clearness. And I think that, for example, in the elementary schools in the preparation of essays, this form is one of the most efficacious means for the individual forming his style and acquiring a wide and extensive range of ideas. None of this is experienced as intellectual fatigue but only as the outlet of natural enjoyment.