

Educating Ourselves to Think with a View to 'Ecologically Inhabiting the Earth' in the Light of the Thought of Hannah Arendt

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Cognitive representations play a fundamental role in governing the relationship existing between the natural world and the human world. It is important, therefore, to analyse some ideas which, in our culture, condition in a non ecological way the relationship which have with the natural world. This is the premise for the development of an ecological education.

In this perspective, the thought of Hannah Arendt revealed itself as fundamental. An interpretation of the arguments developed in her fundamental works (Arendt, 1987; 1989) permit the tracing of the genesis of some mental attitudes which have contributed to the development of a culture indifferent to the environment in which we live and, further, permit new categories of thought from which to begin to reform environmental education.

The ideas which inhabit our mind

Ideas play a decisive role in provoking the changes with which human history evolves. The environmental problem is not only a question of scientific and technological development, but is also in close relationship with what humans think about themselves and the things which surround them with the hypothesis which they elaborate in merit, and with the doctrines in which they believe (Derrick, 1972).

The 'life of the mind' is not only an intentional elaboration of information, a construction explicitly pursued of theories and of systems of conceptualism of experience, but it is also a place of ideas which synthesise precise 'worldviews'. Ideas, which having been sedimented in our culture for a long time and reinforced through the acculturation process, have become a part of our imagination, constituting the substance of the life of our consciousness. These ideas, which tend to escape the reflective and critical action of the thought process, form the underlying structures of the thought itself which define the horizon of intelligibility of our experience: they generate our attitudes and orientate our actions.

Mental images and ethical norms, in fact, are closely connected, in the sense that the descriptive metaphors constrain deontological orientations, implying, even if tacitly, criteria of judgement capable of authorising certain attitudes and behaviours, and of limiting or even forbidding others (Merchant, 1980). From an ecological viewpoint, those

metaphorical images which express a precise representation of nature and of the role which the human being occupies with respect to it, are particularly important. 'The image of nature which we have inside us' explains the environmental psychologist F. Perussia, 'influences our choices and our behaviour, determines our life style, reflects ... on our moods and interacts with the profound dynamics of our personality' (Perussia 1989, p.7).

Starting from these premises, it is therefore possible to interpret the attitudes and the actions which western humans show towards the environment (exploitation without limits of nature, models of organisation of space which reduce it to a devastating use of the territory) as the manifestation of a world of ideas, relevant in our culture, with a strong anti-ecological connotation, capable of legitimising a way of inhabiting the Earth which places itself above any ethical consideration whatever.

A strict relationship exists between the world of ideas and the code of behaviour, such that the modification of one can involve the consequent modification of the other. Then an educational practice, which acts on the premises of our culture, becomes a fundamental issue for a society that intends to renew itself profoundly at the level of its relationship with the natural world.

I think that education, designed to lay the bases for a new environmental culture, must act in the direction of a radical renovation of the presuppositions of thought and of attitudes which the human being develops towards the environment. As Bateson has stated, the root of the environmental crisis lies in a nucleus of underlying obsolete and incorrect ideas which prevent the development of ecological thought (Bateson, 1979).

It is therefore necessary to plan an educational method which works on the ideas of our mind, entering into a relationship with the horizon of the interpretation of reality in order to bring it to the level of consciousness and make a problem of it. The aim is that of stimulating the students to look for other possible 'maps of ideas', capable of orientating an ecologically based way of inhabiting the Earth. For this purpose the teacher must enter into a relationship with the students through 'legitimate questions'¹, which stimulate them not only to explain their maps of ideas and to question them, but also to become self-creative beings, that is to say that they assume the responsibility of constructing other prospects of interpretation of themselves and of their relationship with the world.

The proposal to educate by working on the maps of ideas could meet obstacles in front of a reductive concept of the educational process, understood only as the transmission of codified knowledge, firmly believing that the cognitive, aesthetic, ethical, affective growth of the individual, is the exclusive function of a process of instruction designed to teach the bases of the disciplinary languages. That does not take into

account the fact that the formative process interacts with a 'world of ideas', which forms the core of the individual personality, and which von Foerster defines as the 'internal state' (von Foerster 1992, p.132) which conditions the educational intentions. It is therefore considered that an education which intends to lay the premises for a real and lasting change in attitudes and behaviours of the people must also have access to the roots of the 'world of the life of the mind'.

This, in the first place, requires research into some fundamental ideas of western culture which have conditioned and still condition the relationship between the human being and nature, in order to evaluate its possible deontological force in a non-ecological direction. The preliminary condition for such a research is the identification of the indicators which qualify in a non-ecological sense an attitude of thought.

It is a widely held conviction that the nucleus of the crisis of relationship between the human world and the natural world is to be found in the sense of extraneousness which western people have developed towards nature. But certainly the perception of the devaluation, which modern western culture nurtures towards the natural world, plays an important role. This depreciation implicitly legitimises the unlimited exploitation of the environmental resources without taking into account any ethical question whatsoever. Nature is not considered to be a capital to be looked after, but an income to be exploited without limits (Schumacher, 1973). Thus, instead of inhabiting the Earth with care, we lodge there like passing tourists, visiting it like a supermarket.

For this reason education must remove two serious obstacles: the ignorance of the relationship which ties the organism to its environment and the habit of ignoring the intrinsic value of the environment (Whitehead 1959, p.224).

In this perspective it therefore becomes necessary to identify some of the ideas which are found at the root of the sense of extraneousness and of devaluation of nature. This is the premise for planning an educational approach which guides young people in the search for another possible horizon of ecological thought.

Many studies have been carried out in this direction, but, for the specific purpose of this work, the philosophical thought of Hannah Arendt has proved to be fundamental. An ecological reading of Arendt's work - whose specific subject in this case was the philosophy of politics - is relevant since her thought is based on some axioms which offer interesting perspectives for the interpretation of the ecological crisis (Dal Lago 1989, p.XXIV).

The modern human condition

A careful reading of 'The Human Condition' reveals the presence of a guiding image, of a deep ecological value (with a strong ecological

meaning) which acts like a red guiding line for the entire dissertation (which is a sort of connecting thread in the dissertation as a whole). It is the idea that living on the Earth and inhabiting the world is the proper condition of human existence and therefore of belonging indissolubly to the natural order of things (Human beings, in fact, belong to the natural order of things). The constant warning which implicitly and explicitly runs through the whole text is never to forget that human existence, independently from any material and spiritual progress, is, and will always be, conditioned by the things, whether natural or artificial, among which we find ourselves at the moment of our birth.

This representation of human existence as strictly tied to the Earth is one of the simple but central axioms of Arendt's anthropology. Starting from here, Arendt looks for the answers to the question she poses at the beginning of her dissertation, when she asks if the technical and scientific development increased, in a Baconian sense, for the submission of nature to the human world, can be interpreted as the symptom of an 'ever more fatal rejection' of the Earth which we inhabit and which nurtures all living beings (Arendt 1989, p.2).

The development of spatial technology, fruit of the ancestral human desire to cut all ties with the Earth, is interpreted by Arendt as a sign of rebellion against human existence. From this point of view, even more worrying are those recent experimental instances of research, which tend to make life artificial and to manipulate its natural conditions. The objective of these strategies is to build a world completely unconnected with the necessary conditions which bind the human species to the natural world. To pretend to forget the ties with the natural world is equivalent to denying the quintessence of human nature. As far as we know, writes Arendt, the Earth is the only place which can provide human beings with a habitat in which to move and breathe without artifice (Arendt 1989, p.2). It is necessary to change the consciousness that no possibility exists of achieving liberty without acting with full awareness of the limits imposed by the bonds which are an insuperable part of our life on Earth. The abolition of necessity, instead of leading automatically to the conquest of freedom, obscures the possibility of distinguishing freedom from necessity (Arendt 1989, p.51). The tragic demand to be free from the bond with nature, which can only be an illusion, makes it necessary to think deeply about the human condition.

The cultural roots of the non-ecological crisis

The modern human condition is extremely alarming because it runs the risk of setting off a process of destruction of nature with unpredictable and irreparable consequences and, at the same time, of destroying the human world itself. The increased technological power, which the industrial society has used to increase the exploitation of natural resources

and to thus achieve the Baconian dream of the submission of nature, is closely connected with the development of modern scientific thinking. It is for this reason that an opinion largely shared is that at the root of ecological crisis there is the world view and the system of values which, in their essential lines, were elaborated in the cultural context which has seen the birth of modern science.

The modern scientific paradigm played an important role in western cultural progress; but, as has been observed in many places (Bateson 1979; Capra 1982; Merchant 1980; Morin 1977), it represents, for certain aspects, a big obstacle to the development of an ecological thought, because it has written in its gnosological and epistemological structure a negative conception of the material-biological reality, together with the idea of a separation between mind and nature.

Decisive in this sense was the contribution of the Cartesian philosophy which not only theorised a clear cut distinction between 'res cogitans' and 'res extensa', establishing in this way a radical division between the human world (the world of rationality and of existence according to a plan with a final purpose) and the natural world (the world of 'blind necessity'), but spread a mechanistic idea of nature, which, from the living organism, as it was conceived until the Renaissance, becomes an inert and passive entity, divisible internally in several distinct parts. This mechanistic framework not only contributes to the fuelling of a perception of extraneousness of the human being towards nature, but, representing it as an inanimate reality, nourishes also a devaluating perception of the things belonging to nature, in so much as they are necessary entities and are without a thinking substance.

At the same time as she examines the relationship between the present human condition and modern scientific thought, Hannah Arendt underlines that the contribution of Galileo must be considered decisive. The invention of the telescope would finally have satisfied the desire of human beings to look at the world, while putting themselves in a view point not tied to the terrestrial, and would have provoked the weakening of the awareness of the links between human world and nature. The triumph, for having created an observation point which had always been considered as being beyond human possibilities, also confirmed the idea of the inadequacy of the senses as instruments of knowledge, which provoked that radical 'alienation from the Earth' which became, and remains today, the distinctive sign of western culture (Arendt 1989, p.195).

The cultural weight played by the Galileian metaphor of nature, as a book written in mathematical terms, must not however be neglected. A reading, in quantitative terms, of reality, leads to the putting in brackets of the so-called 'secondary qualities', and, with them, of the senses as instruments of knowledge. And with the loss of sounds, smells, colours etc., not only does an essential part of nature get lost, but the direct link

with it also ceases to exist, that link with matter which western culture has always perceived in terms of too heavy a bond from which it was necessary to untie itself as soon possible. It is on these premises that educational practices have privileged the book as an instrument of formation, with a consequent devaluation of direct experience of things. Hence, the end of the awareness of the importance that the relationship between things and natural phenomena have in human life. An importance which is not only cognitive, but also emotive and aesthetic.

It is incorrect, however, to think that the roots of the ecological crisis must only be looked for in the modern era. As Arendt argues, the tension towards separation is the archetype of western thought. It is on this categorical imperative that our culture has elaborated its identity from the beginning (Arendt 1987, pp.103-106). Many are in fact the dualisms upon which the west has constructed its tradition of thought: spirit/matter, mind/nature, rationality/affectivity, logic/intuition.

If the development of an ecological culture presupposes the search for a way of overcoming these dualisms and their consequent tendency to look for order only through clear-cut and irreconcilable distinctions (Morin, 1977), this can be found only by identifying the presuppositions of thought (Bateson, 1972) which lie at the base of this tendency to separate. This consideration makes it necessary to shift our attention from proto-modern culture to the older Greek philosophical tradition where the cultural roots of our ecological crisis should be searched for (Hargrove 1990, p.21). To avoid facing up to the discussion of the very foundations of our culture, means not to reflect on the very air that we breathe, and, if we don't take conscience of the elements which pollute it, we can't start any healing action really efficacious for the purpose of constructing a new 'cultural habitat'.

Following the path of Hannah Arendt, we discover that there is not an ecological time (pre-modern) followed by a non ecological time (modern), but, rather, that there is a fundamental, even if not pervasive, non-ecological tendency in western culture, which has its premises in the ancient Greek thought. When, through Parmenides, Greek philosophy introduces a radical contraposition between the 'reign of being' and the entire world, it poses also the premises of that devaluating perception with which we face nature. This first and fundamental ontological separation, in fact, not only has an epistemological function of distinguishing precincts of knowledge, but also defines a values asymmetry between these two levels of reality (Arendt 1987, pp.105-106). In this divided vision of reality, the natural biological world suffers a heavy devaluation in so far as it is the place of appearance; because, in the Greek world view, the becoming has the negative value of the illusory perception, in so far as it is transient (Cavarero 1991, p.43). Thus, as the reign of the becoming, the world of life, made up of concrete experiences, paradoxically becomes the

place of non-being. And where there is not being there is not value. It is precisely this taking away of existence from the things which surround us, that causes 'making unreal the world of life', and consequently the world of nature. The axiological asymmetry between the two worlds, that of the mind and that of nature, has greatly conditioned western culture. That is proved by the fact that the negative vision of the material-biological world has found full confirmation in the philosophy of Plato, whose philosophical thought has constituted the structural framework of western philosophy and, through Descartes, it has nourished with itself that protomodern philosophy in which many environmental thinkers find some presuppositions legitimating an anti-ecological approach to the world.

Plato not only constructed his philosophical thought, starting from the distinction between the world of ideas and the world of life, but, theorising the absolute lack of values of the latter, he took as a regulative criterion of existence, the separation from this reality. It is a question of taking the distances from the material-biological order, so as to draw from within the limits of possibility that level of being which is extraneous to the real condition of human existence (Arendt 1987, p.104).

Inside this radically dichotomous structuring of the levels of reality, a vision of life without the sense of the world is based. Birth, instead of marking positively the beginning of an existence to which everyone is called to give a sense, starting from the positive recognition of this being-among-the-others-in-the-world, is interpreted as a negative, if not paradoxical, event, in the sense that it ties the thinking substance, the only noble part of humankind, to matter, which is an inferior and extraneous level of reality. This highly unreal vision, with respect to the natural conditions of existence, puts itself at the origin of an inattention towards the natural world, which constitutes the archetype of western thought.

This ethic of inattention towards the perceptible world has also consequences on the gnosological and epistemological level, since it places the research of truth in the metaphysical world, while that of concrete experience is reduced to a place of opinion. While knowledge, which goes in search of truth, tends to become a progressive and incessant detachment from the things which surround us, existence becomes a question of being distracted towards things, in search of precocious separation from the place in which, by birth, we find ourselves to be. This version of the world is profoundly anti-ecological, because it leads to the considering as legitimate an attitude of indifference and of lack of care for the world which surrounds us. Here, therefore, lies the origin of that devaluation and distraction from the world of nature which marks western culture in an anti-ecological direction.

On the grounds of these considerations we can assert that ecological education must have among its objectives the promotion of a new cultural

idea, capable of provoking a different attitude towards the world, marked by a substantially positive existential disposition, which, accepting our belonging to the terrestrial ecosystem, works also in the direction of an appreciation of the natural environment.

The idea of well-being

To search for a new ethical attitude towards the things which surround us, brings the dissertation necessarily to measure itself with another idea, which greatly conditions the quality of the relationship which human society develops with the natural world: the concept of happiness, and, thus, of the quality of human life. In 'The Belgrade Charter' (p.1) it is stated that the reflection on these concepts constitutes a necessary premise with respect to the planning of courses of education regarding the environment.

Fundamentally anti-ecological is the idea of well-being characteristic of the modern human condition, which identifies happiness with the availability of things to consume. In this consumeristic interpretation of the 'quality of human life' the plunder beyond all limits of nature's resources finds full legitimisation (Arendt 1989, p.89). The human activity which prepares consumption is a devouring process which seizes and destroys matter. On this our wasteful society has been built, which has led to the despoliation of nature of the contemporary era.

Hannah Arendt disproves one of the common place ideas of a certain environmental ideology, according to which only in modern times has humankind perpetrated violent and destructive attacks against nature. There is an idealised concept of past society in this ideology. Arendt underlines instead how it is a necessary condition for building a world of human artefacts, which constitutes the proper abode of humankind, that humankind should take resources from the environment. The real problem, from an ecological point of view, starts when nature's exploitation exceeds the limits of what is necessary to obey the logic of abundance on which the consumer society sustains itself. With respect to an essential idea of happiness (Arendt 1989, p.77), for which nothing more would be required by humankind than what is necessary and sufficient to sustain this life, in the modern era, the 'happiness of the greatest number' has prevailed. With this quantitative interpretation of well-being, the process of instrumentalisation of the natural world loses any criterion of measurement whatsoever, because in the logic of the greatest number the needs become unlimited.

The ethic of consumerism resolves itself in the consumption of nature. But while humans consume nature, in reality they consume their own existence, not only because they destroy the primary fount of the existence of every living entity, but also because the consumption imposes feverish rhythms which govern their lives instead of protecting their

happiness (Gargani 1993, p.26). Consumerism does not lead only to the degradation of the environment, but also to the dissipation of human life.

From the ecological point of view, the consumerist interpretation of well-being becomes of critical importance because it is strongly rooted in the philosophy of utilitarianism, which affirms that the regulatory criterion of human action is profit and, in the name of what is useful all means are justified. But when profit becomes the purpose of everything and of every activity, and when the standard for establishing what is useful is the purpose itself, humankind becomes the principle of measurement of all things, while the entities lose intrinsic value and reduce themselves to being simple instruments for human needs (Arendt 1989, pp.110-112). In this anthropocentric-utilitaristic world view, the Earth and the entire world are submitted to an instrumentalisation, which surpasses every reasonable measure, in a process of progressive senselessness.

For these reasons ecological education is complex: it must teach a scientific competence useful for analysing and understanding environmental questions, but this isn't enough. It must stimulate students to re-think the significance of existence, starting from a different idea of well-being and of the quality of life, for living on Earth with eco-wisdom.

Which educational path?

Hannah Arendt does not give us a map of new ecological ideas ready to be assimilated and then consumed. She puts forward instead a proposal dense with educational meaning: it is necessary to start again to think and, thus, educate to think. Now, this may be surprising for people, who might even ask: 'What kind of news is this? School has always been teaching us to think!'

To understand the sense of Arendt's proposal, it is necessary to take up again the distinction between 'knowing' and 'thinking' developed in her work, 'The life of the mind'. Starting from Kantian premises, Arendt affirms that 'knowing' means the activity of the mind through which we construct science whereas it is characteristic of 'thinking' to search for the meaning ².

The need to think, which is a characteristic of every human being in so far as they are thinking beings, is not concerned with reaching a certain and verifiable truth, but goes in search of the meaning. And truth and meaning, Arendt specifies, are not the same thing (Arendt 1987, p.97). To concern oneself with meaning means paying attention to those questions about the sense of existence which naturally present themselves to the conscience. It is the impossibility of reaching certain and definitive answers which makes people consider thinking to be an idle activity and, as such, useless. In reality if the thinking is in close relationship with the capacity of judgement, it is therefore extremely important to educate individuals to practise the art of thinking (Arendt 1987, p. 95).

What is abundant today is knowledge, in the modern sense of know-how, of technical competence, while it is precisely the lack of thinking the problem which Arendt, in line with Heidegger's position, even considers to be the most serious problem of our time (Arendt 1989, pp. 3-5). For this reason it is necessary to educate to think.

In a era such as the present, full of uncertainties and unresolved questions, the problem of defining an ethical framework capable of regulating the actions of man on Earth cannot be considered a question which only regards a limited group of specialists. It is, above all, a political question and, as such, it regards everybody. In this sense 'the ethics of responsibility' (Jonas, 1979) towards nature should be understood, above all, as the responsibility of thinking about the meaning of living on Earth.

But what does 'educate to think' mean in the context of an ecological educational path? In the first place, it means educating people to wish to face up to the fundamental questions which reason naturally raises for their consciences: 'What does being a human mean?', 'In what relationship is humankind with nature and with the living and non living entities present in it?', 'How can humankind fully develop its humanity while remaining at the same time within the nature-system?', 'What does a good quality of life consist in?', 'How can the needs of the human community be reconciled with the principle of prevention and of the conservation of nature?' Only by facing up to these questions is it possible to find those ethical criteria which enable us to give order to our life on Earth.

The commitment to the exercise of thinking in a questioning and reflective way is essential, because the human condition of belonging to the natural order of things is an intrinsically problematic condition, which hasn't got a meaning a priori but which must be elaborated through a rational and conscious process. In recent times these problems have become even more intense, because of the questions raised by the ecological crisis. Before our era, the interferences with nature had what might be called a superficial impact, in the sense that they were easily reabsorbed within the existing ecosystem equilibria. But now nature has been exploited to such an extent that the equilibria have been destroyed. The human being, for this reason, finds itself facing up to fundamentally new problems, different from those of the past, both in their kind and their dimensions.

Regarding these ecological problems, science can and must make its contribution; but though it is necessary, it is not sufficient. And not so much because the truths which it puts at our disposition are always relative, but because science tells us what we know and what we ignore, but does not supply us with criteria for establishing what we must do with this knowledge and how to regulate our actions in consideration of the limits which are characteristic of human knowledge. Knowing how to think presents itself, therefore, as an essential element of ecological education

when it is understood as a formative process, intended to give students the capacity to elaborate an ecological framework for creating order between the human world and the natural world.

How to educate to think in a questioning and reflective way

It is evident that what Dewey defines in 'How to think' as reasonableness in making judgements and in taking decisions according to reason, does not come spontaneously, but requires patient training. A methodological instrument for developing this thinking function is above all dialogue. Dialogue isn't a simple conversation, where the mind follows the rapid succession of ideas which present themselves even casually. It is a well orchestrated discussion, well conducted, where the ideas are 'unfrozen' (Arendt, 1987) and carefully examined, so that people can understand the place from which they think.

The educational dialogue must not be understood as an exchange of information, knowledge, opinions, but as a meeting of persons oriented towards the construction of new prospects of interpretation and of the meaning of experience. In this sense, discussion together with others can be where students learn to construct their own perspective on the world, make it a subject of discussion and look for arguments to support it.

Discussing things together should represent a frequent experience in the scholastic context since the natural situation of being at school is, for everyone, that of being in the presence of several persons, students and teachers; this condition is potentially rich with a complex network of communicative processes. In reality the scholastic social context is, for the most part, scarcely used, because the idea is widely held among the teachers that the most suitable educational situation for promoting learning is the transmission of information by the teacher. It has, in fact, been ascertained that the teachers talk on average for 70% of school time and they address themselves to the student through questions centred on what they themselves have said and where the point of view of the student has scarce opportunity of expressing itself. Discussing together in a constructive perspective, instead of in a simply repetitive way, is, however, fundamental for the development of the capacity to think.

Recent research in the field of the psychology of education show, in fact, how 'discussing together', in small or large groups, especially in the group of one's peers, is the indispensable instrument for the construction of a common world of meaning. The capacity to think finds, in fact, fertile solicitations in the experiences of discussion, during which the argument that is being 'constructed together' through the dialogue is internalised by participants. Discussing together, points of view are put into play, the reasons for what is being said are searched for, in order that everybody can argue in a reasoned way their own assertions, and can learn to think by developing the capacities inherent in the art of discussion.

Therefore the school where ecological education is carried out must not only be structured as a 'laboratory' where one acquires scientific knowledge about the natural world but also a 'community of thought' where intense and frequent processes of communication are activated, and where by discussing together, maps of ideas are questioned and new world views are constructed.

The organisation of the school like a community of thought can be put into practice already at the primary levels of schooling, since children show, very early, various forms of argumentative strategies (Völzing, 1981), which only await to be adequately developed. And nothing is more motivating than a dialogue, which has as its object the relationship which the child creates with elements of the natural world, because they interest her or him very much.

The facilitation of dialogue is therefore an important responsibility of the teacher. For this reason, the teacher must play the role of sceptic, i.e. of the person who is never satisfied with the answers given and therefore asks for continuous clarifications. In general, the querying of the discourse by participants who introduce questions adequate to the level of knowledge of the participants, putting themselves in what is the 'area of next development', provoke a deeper discussion, soliciting more accurate analyses of the problem and more articulate elaborations of ideas (Pontecorvo-Ajello-Zucchermaglio 1991, p.32).

In order that this destabilising function of the Socratic dialogue may act positively, the teacher will have to take care to create a relaxed work climate, where even when facing the knowledge of the difficulty of searching for clear and definitive answers, the young participants conserve all their desire to interrogate themselves and the others. It is true that reason always tends to search for sure conclusions, and this is a motive which could cause people to live in an uneasy way the fact of being solicited to put in discussion the certainties which are at the base of our way of acting. This recurring need of certain and definitive answers, however, rather than corresponding to the essence of reason, is the result of a model-way of planning intellectual education, which doesn't succeed in teaching people to sustain a state of uncertainty, and in stopping them from feeling anxious when they don't find satisfactory answers. The search for maps of ideas, starting from which the way of 'living on the Earth' should be oriented, must be pursued in the awareness that it cannot achieve definitive results.

To educate towards the readiness to live in a state of uncertainty, without hurrying up the times for the search for adequate answers, requires the ability of the teacher to develop a communicative style suitable to stimulate great enthusiasm for verbal interaction and, at the same time, a positive attitude towards intellectual research. In this context, it is significative to remember that, for Socrates, dialogue is a form of

communication which takes place among friends: the specific characteristic of the relationship of friendship is the act of working for the common good, looking to be in agreement with one's own interlocutor. Provoking perplexities, fuelling discussions, does not possess an intrinsic positive value from the formative point of view: the educational value of the action is relative to the quality of the emotional and affective context in which it is developed.

The elaboration of 'guiding ideas'

Education to think cannot limit itself to the exercise of critical-reflective and theoretical-clarification functions of thought, because it also consists in the creative elaboration of projects, which are able to orientate actions regarding the natural world.

In fact it is not sufficient to ask what is right-good-nice to do towards Nature, it is necessary to invent new projects for 'ecologically inhabiting the Earth'. For this purpose, we need to elaborate some 'guiding ideas' capable of bringing out new attitudes and new forms of behaviour towards nature.

These 'guiding ideas' should be understood, not as entirely preconstituted projects for action, because, in this case, one would finish up with imposing the idea on the reality, thus stopping the historical tendency towards change, but as flexible orientations capable of an auto-regulation towards a new interpretation of inhabiting, in a dynamic relationship, with the solicitations which come from the factual reality. 'The fundamental function of a guiding idea, Banathy writes, is that of supplying a meaning and a purpose to life and to guide us towards a desirable future' (Banathy 1989, p.360). Knowing how to think (and here we take the distance from Arendt's perspective) should be conceived, in fact, in a functional relationship with knowing how to act.

Education to think also takes the form, therefore, of an inducement to cultivate the constructive function of reason, which manifests itself, not only in the invention of a project, but also in the putting in place of the procedures for its realisation. The commitment to plan creatively the relationship with the surrounding world takes the form of an imperative ethic, because if the basis of ethics is the awareness of being constructors of the sense of the world (von Foerster, 1992), then, acting in an ethically based way presupposes the assumption of the responsibility of this construction.

In order that the 'guiding-ideas' can orientate action for the realisation of a better quality of human life and a new relationship with the natural environment, they must be thought out in the direction of the possible. There is the necessity for a projectual way of thinking which constructs the relationship with the world in the direction of utopia. Education doesn't aim to integrate the subject in the actual conditions of

life, but to fuel the desire of better worlds and the ethical commitment to create them.

It is also towards the invention of utopias, therefore, that the education of projectual ecologically-oriented thought must tend. The 'ecological utopia' understood not in the negative sense of something which does not have a place to be; it is a project of inhabiting the Earth which, while prefiguring styles of life and methods of management of the environments different from the present conditions, is such as to constitute, however, a horizon of ideas, capable of orienting individual and collective action, in the direction of the transformation of the present reality for the positive solution of the ecological crisis.

The same environmental thought gives a noticeable importance to the elaboration of 'eco-utopias'. To invent scenarios which prefigure a better ecological future has, according to Devall and Sessions, a practical value, because it helps to define precisely the objectives, it offers a target which, even if it can't be completely realised, orients both individual action and political programs (Devall and Sessions 1989, pp.151-171).

It seems to us, however, that this effort to produce ideas can be valid and useful, in the educational context, if it is based on a work of clarification, designed to put in focus the essential needs and the authentic tension of human beings, in order not to risk designing projects which remain trapped in the logic of consumerism and the technological myth, where the idea of progress is reductively understood in a quantitative and materialistic sense. Education towards the invention of utopias acquires an indisputed value when it is supported, by valid-good-sound technical-scientific and logical-critical abilities, by clear ethical intentions and by aesthetic sensibilities (to reinvent the places to inhabit according to the categorical imperative of beauty, in place of the degradation offered today by many urban spaces).

Unfortunately the school often fails to fuel the planning capacity of thought and cultivates, instead, a recognitive thought, that which Banathy defines as 'competence for conservation', instead of a 'competence for evolution' (Banathy 1989). As far as the Italian school is concerned, the educational paths designed to promote the acquisition of an environmental competence include activities such as observation and perception, the finding and reading of items of information, and give little space to processes of creative reinvention of the places studied. The studies of psychology reveal students who already from their infancy constructs their relationship with the outside world naturally, inventing and planning, elaborating provisions and formulating hypotheses. The instructional processes often, on the other hand, force students into a role of registration of situations and events, which don't allow them, except in a very small way, to have a role of planning, where they can hypothesise different representations of the relationship between human beings and the

environment. It is important that the pupils develop the capacity to follow some indications with respect to an educational path, to read a map, to consult a compass, to adapt themselves to pre-arranged systems of coordinates in order to find a place, but it is just as essential to learn to think again about and to redefine the environment, starting from an idea put in focus through a creative process³.

Without complex teaching reforms there are many expedients which can be adopted to promote a planning attitude in the students. Above all, it would be necessary to avoid their perceiving the school spaces as rigid and monofunctional structures, offering them the possibility of planning their use and the arrangement of the furnishings. When people have been involved in the planning and the arrangement of environments, greater is the respect and the care which they manifest towards both public and private places (La Cecla 1988, p.77).

As far as the activity of learning relative to disciplinary languages is concerned, which are essential for the development of an environmental competence (such as for example topology and geography), it is necessary to avoid limiting the activities of the pupils to the carrying out of exercises. It is important, inviting them to act as teachers themselves (an inversion of roles which they like very much to try), to ask them to invent exercises and problematic situations to submit to their companions who, in this case, become attentive judges of other people's work. These activities, apart from being extremely motivating, encourage the development of important cognitive abilities: when given a task with precise limits, it is necessary to elaborate processes of ideas, draw graphs, prepare instructions for the user of the exercise, etc.

The school courtyard, frequently studied from an ecological point of view, because it is an example of an ecosystem, and often the subject of maps, could be proposed as a place to be reinvented from an aesthetical point of view. The same indication can be applied also to the green open spaces present in the urban context which, often subject to lack of care and to degradation, are treated with indifference, when, on the other hand, they can become laboratories for the acquisition of scientific knowledge.

The planning commitment, to be really educational, must not limit itself to the theoretical level, but must contemplate also time and space to be put into practice. For this reason, the possibility of realising their projects should be offered to the pupils, involving them in a detailed plan, followed by a responsible commitment, for its concrete realisation.

The commitment to responsible planning of 'inhabiting the Earth', does not imply only 'knowing', i.e. being able to elaborate the plan of living, but also 'wanting', i.e. the desire to assume responsibility, both theoretical and practical, of the management and care of environments. It presupposes an attention and a passion for the environment which cannot emerge except where there is a clear awareness of the value of the

surrounding world. A value which exists independently of the theoretical or practical use which we can make of it. Only in this way environments, from being containers of resources for the unlimited satisfaction of our needs, can go back to being understood as 'places of life', to be respected and to be taken care of.

The argument sustained here is that the possibility of developing this awareness is connected with the exercise of a thought, which also develops its aesthetic dimension. A way of thinking which directs its attention to the object, not in order to calculate-quantify-foresee, but which simply observes and observing admires. This aesthetic way of thinking leads to the discovery of the value of nature.

We shall not succeed in cultivating an ecological way of thinking, if we continue to practise an education of the mind unconnected with aesthetic sensibility (Bateson 1979, pp.33-4). The appreciation of the beauty of the things of the world contributes, in a relevant way, to the development of a greater consideration and respect for nature. An 'aesthetically educated' society would not have put up with the degradation of the territory and the desolation of our cities (Passmore 1986, p.214). From an educational point of view, it is therefore essential to understand where this way of thinking originates, how it manifests itself and which educational practices it presupposes.

Thinking as an aesthetic appreciation

The disposition towards the aesthetic consideration of the surrounding world is something which is just about forgotten, not only in the writings of philosophers and scientists, but also in school practices, which are all accustomed to considering nature only in a scientific and technical perspective. Modern society, caught up in the frenetic rhythms of urban life, neglects to practise an attentive observation and tends to live in a distracted way, in a sort of environmental rootlessness.

As on the other hand the ancient peoples well knew, the point of departure of thinking is that 'amazement which admires' (θαυμαζειν) of which Plato talks (Teeteto, 155d). It is that sense of wonder which comes upon the mind in front of the harmony and the beauty with which many of the things of the world appear (Arendt 1987, pp.231-254): the near, visible, world (everything which lives on the Earth, with their colours, their sounds and their smells) and the far away world (the heavenly world, with the regular movement of the sun and the spectacle of the moon and the stars) (Arendt 1987, p.100).

It is therefore necessary to find space in the educational practices for some experiences able to orientate towards the consideration of the beauty of the things and of the phenomena of the surrounding world. This attention, in fact, allows the emergence of the 'aesthetic disposition': an attitude of opening to the world which creates the awareness of the value

of the places which we inhabit and of the living and non living entities which surround us. A value which subsists independently of the theoretical or practical use which it is possible to make of them. In this sense, the aesthetic attitude takes the subject away from the intrusiveness of the tendency towards the domination and the utilitarian appropriation of the environment in which we live, where things are reduced to the level of objects to use, and open up the prospect of a different relationship with the world of nature, built on the ethics of discretion and respect. Aesthetic education which acts as a form of appreciation of the value of the surrounding world of life, fuels a positive attitude towards the natural world, which is essential for the generation of an authentically ecological conscience.

To look with wonder is an attitude characteristic of the child, ever ready to wonder at the spectacle of the world, even in front of its apparently scarcely relevant aspects, and to raise an infinite series of questions about it. Too often, however, this form of opening to the world vanishes with time. The school, then, must give space to the educational practices designed to offer the pupils the possibility of having frequent and pleasant direct experiences of the natural environments.

Many proposals of ecological education have the aim of developing the aesthetic sense through sensorial experience to recuperate the pleasure connected with the direct contact with the elements of nature. It is considered that sensory education should not only provoke an enrichment of knowledge, but diminish the uprootedness from the environmental context in which modern people live.

Sensory education, which certainly brings children and boys nearer again to the surrounding world of nature, is not, however, sufficient, in our opinion, for the purpose of the development of aesthetic sensibility. What is necessary is to learn to look at the world in a new way, a way which abstracts itself from the intrusiveness of the logic of consumption and of manipulation. Because the ethics of the respect and the care of the surrounding world, which in practice takes the concrete form of actions for the protection and preservation of the environment, has its premises in a form of education designed to promote a different existential orientation, where the subject assumes an attitude of distance and discretion towards things. For this purpose it is necessary to educate people to pay an empty and open attention to things, in a condition of silence. In its relationship with the world, the subject of western thought, has prevaillingly a logic of imposition, where it dissolves any otherness in a process of self-reflective projection, in which the process of appropriation of things is completed. In this objectifying and instrumental approach, where the entities are reduced to simple resources and lose every intrinsic value, their nature does not find conditions in which to reveal themselves in their complexity. Paying an empty attention consists essentially in

opening oneself to the elementary experience of things, without reference to those symbolisations and those systems of codification which, provoking an abstraction with respect to the subjective experience, place themselves at the origin of the process of distancing and separation from nature.

On the other hand, a constant concern of instructional practices is precisely that of immediately proposing systems of objectification with which to certify in advance the experience of the world. Only when we remove thought from the domination of the logic of self-reflective imposition in order to prepare ourselves for the paying of a non-orientated attention to things, we create the conditions for finding again a new relationship with them.

As Barbara McClintock teaches, it is necessary to 'pay attention to things' (Fox Keller, 1983). Listening means putting in brackets already formulated descriptions and already tested interpretative models, through which we objectify the experience of the world, and recounting the experience from the place in which we effectively find ourselves. The dimension of listening, where our attention is open to every event, to every sign of becoming, helps us to discover the complexity of what happens around us. The school's task is to teach how to use the symbolic instruments for describing and narrating the elementary experience of things.

Towards new categories of thought

It is not sufficient to educate to think if this practice remains confined within the non-ecological perspective of western thought. It is necessary to find new categories of thought capable of fuelling an authentically new attitude to the world and to the human condition. If at the roots of the consumer society there is, above all, an implacable depreciation of the natural world and, with it, an anthropology marked by the anxiety of knowing ourselves to be creatures tied to the Earth, then the problem is to identify perspectives of thought capable of promoting a positive consideration of the things which surround us and of our condition of being creatures tied to the Earth.

There can be many ways of achieving this objective. What interests us here, is to emphasise the role which the idea, through which Hannah Arendt proposes to rethink the human condition, can have: the idea of birth (Arendt 1989, p.182). Since the human condition is precisely that of natality (Arendt 1989, p.8), to rethink existence starting from the consideration of the human being as a natal being, means affirming the value of coming into the world, of that original event which ties the being-there of humankind to the environment which receives it. Being born is possible not only in relation to a social and symbolic context, but also in relation to the bio-physical environment, which nourishes our life. Then,

thinking in the perspective of natality helps understanding the value of the environment as the very condition of existence and, therefore, a greater respect and care for it. Thinking from the consideration of the human being as a natal being, contributes to developing the awareness that taking care of our life means taking care of the Earth which welcomes this birth, that Earth which, alone and unique, allows humankind to appear and to leave a sign.

The relationship humankind-nature thus finds an ecological interpretation through the nature-birth connection, because it puts down the terms for reflecting on the senselessness of that process of devastation of the Earth which, while it destroys nature, destroys the fundamental condition of birth and, therefore, of life itself (Dal Lago 1989, p.XXVI). The idea of birth must not be understood as an instrumental concept suitable for founding a theoretical system, but it is a point of view which is used for generating an attitude of attention towards the surrounding world. The positive evaluation of the human condition predisposes the subject towards an attitude of gratitude, which leads us to take pleasure in the things which surround us, for the simple fact that they exist. The attitude of gratitude is the exact opposite of that desiring tension on which consumerism is based (Arendt 1987, p.23). Gratitude for what we are and for what is given to us, instead of desire for what we are not and for what we do not possess, generates a new framework of interpretation of relationship between the natural world and the human world, which exceeds the limits of a utilitaristic world view. 'Thinking how to thank and to admire' brings about a relationship with the environment which is ethically significant, because it develops the consciousness that wellbeing is not about the appropriation and the assimilation of the other by the subject in a project of domination, but develops itself through a discreet relationship with living beings and things, and with taking care of the environment in a responsible way. The attitude of mind, which recognises the value of the environment where we live, can therefore help us to profoundly renew our attitude and our behaviour towards the natural world.

Notes

- ¹ The distinction between 'legitimate questions' and 'illegitimate questions' was elaborated by H. von Foerster, in order to distinguish the open questions, the results of which are unknown (legitimate questions), from those in which the reply is already known (illegitimate questions). The model of school, which uses prevalently illegitimate questions, presumes that the students are 'banal machines' which elaborate information in a predictable manner. In reality 'children are naturally non-banal machines, they ask the strangest questions and they ask us for the most embarrassing answers. They are marvellous creatures, impossible to predict' (von Foerster 1992, p.132).

- ² This distinction must be taken in a purely instrumental way. As Arendt, who nonetheless develops her argument in a Kantian way, underlines, it is necessary to reason in terms of a unitary re-understanding of 'knowing' and 'thinking', because they belong to the same rational commitment. 'Thinking' nourishes itself on the conceptual and methodological competence of 'knowing', in the same way that the latter takes advantage of the areas of research opened up by the critical-reflective questions characteristic of thinking. The retrieval of Arendt's distinction is however fundamental to the necessity of demonstrating the specific nature of 'thinking' and, hence, the necessity to find educational contexts where to cultivate this capacity, which appears to be neglected by modern culture concentrated almost exclusively on 'knowing'.

If the purpose of this essay is to emphasise the value of educating to think in the context of environmental education, we do not intend to forget, because of this, the role of educating to know, in the sense of an ecological alphabetisation and it is certainly necessary to educate to think in a close relationship with the acquisition of a good environmental competence.

- ³ Education towards planning thinking presents itself as a task of problem-solving, which involves the activation of a plurality of cognitive processes: to put in focus one's own ideas, and to compare them with those of others, in order to arrive at the best one through a process of democratic discussion; to gather information; to make maps, to plan the use of spaces, etc.

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