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Education and Empowerment for an Uncertain World

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REVEALING CHILDREN'S BIOPHILIA

Giuseppe Barbiero

While the relationship with nature is recognized as one of the most important components of human beings' physical, psychological and moral development (Kellert 1997; Camino 2005), our scientific knowledge about nature's impact on the different phases of development of the child, adolescent and adult is rather limited.

There is a great deal of anecdotal knowledge confirming the importance of this relationship; however, we neither have a systematic analysis nor a coherent theoretical framework for understanding the role of nature in child's development (Kahn and Kellert 2002). At the end of the last century, Edward O. Wilson put forward the hypothesis of the existence of a human instinct that he called biophilia (Wilson 1984). The biophilia hypothesis offers an evolutionary explanation for the close man–nature relationship (Kellert and Wilson 1993), and over time, a number of empirical proofs have been gathered to support it, so that currently, the biophilia hypothesis "can provide a unifying framework across numerous disciplines to investigate the human relationship with nature" (Kahn 1999), and it can be reasonably considered a plausible evolutionary explanation for a series of innate human behaviors of relationship with the natural world. However, if biophilia is an instinct—or, more precisely, "a complex set of learning rules" philogenetically adaptive (Wilson 1993)—it can remain silent for the entire life of an individual unless it is appropriately stimulated. Human functions that regulate our relationship with the natural world can "persist from generation to generation, atrophied and fitfully manifested in artificial new environments into which technology has catapulted humanity" (Wilson 1993).

Thus, how can biophilia be expressed in modern society? Howard Gardner reckons that naturalist intelligence, which, in his theory of multiple intelligences is the eighth form of human intelligence, is displayed in those people who take care of, and subtly interact with, the living creatures, such as deep ecologists and naturalists, but:

> even apparently remote capacities—such as recognizing automobiles from the sound of the engines, or detecting novel patterns in a scientific laboratory, or discerning artistic styles—may exploit mechanisms that originally evolved because of their efficacy in distinguishing between, say, toxic and nontoxic ivies, snakes or berries. Thus, it is possible that the pattern-recognizing talents of artists, poet, social scientists, and natural scientists are all built on the fundamental perceptual skills of naturalist intelligence (Gardner 1999, 50).

Hence, in the industrial world, biophilia appears to take the resemblance of an exaptation, a characteristic that evolved for a particular purpose

but that reveals itself useful for a different one. As educators, we feel we have the duty to recover biophilia as an instinct; that is, "the innate tendency to focus upon life and lifelike forms, and in some instances to affiliate with them emotionally" (Wilson 2002, 134) in its original form of evolutionary adaptation: the development of a deep and healthy relationship with nature. Undoubtedly, we have the need to develop an educational project that can stimulate biophilia, but more in general we need a framework for environmental education that starts from biophilia to nurture in the child, the adolescent and the adult the awareness that a profound relationship with nature is necessary for a harmonious development of one's own personality. If this is the conceptual framework of our research, we can begin to ask ourselves more specific questions, such as: What meaning and what value can we give to the different experiences—either direct, indirect or symbolic ones—with nature that children have during their childhood? Is it true that during childhood children develop profound connections with the natural world that are then suppressed during adolescence? How can educators help adolescents to recover such connections with nature without undermining their need for social interaction? How can adults be helped to recover their own feeling of belonging to the natural world?

The formulation of such questions is not conducted by chance: it follows the order of ontological development of the child toward adult life and the related continuous adjustment of the needs and necessities in the different life phases from childhood to adulthood. Such differentiation should find correspondence in the educational experiences at the different levels. It is not difficult to notice that current school education keeps prioritizing cognitive aspects at the expense of more profound levels of connection with the natural world.

Thus it appears important to develop a research area that could be defined *affective ecology* and could be an area of ecology that deals with the origin, growth and maturation of genetically determined and evolutionary adaptive, affective relationships between human beings and other living organisms. Affective ecology is an integral part of the process of affective appraisal of environments, which is the conferral of affective qualities to the environment that is strictly connected to environmental preference. Affective appraisal is also one of the components of environmental schemata (along with the cognitive, behavioral, affective and evaluative components) that are the knowledge structures that organize environmental information deriving from perception and that guide behavior (Berto 2002), hence contributing to the process of knowledge of the environment. Profound parts of this affective process of knowledge of the environment are what Louise Chawla (2002) called "magic spots of time," when children experience an insightful connection of tenderness and love that they have with living creatures and they become aware of the need for the care and attention that they require. However, the possibilities of realizing magic spots

of time when immersed in nature are few and far for school-age urban children. In addition, such children are prevented from enjoying the process of regeneration of direct attention created by the fascination with nature, which occurs by simply passing time immersed in it (Kaplan 1995). Then, it so happens that the direct attention of children who live in urban areas is quickly exhausted, as it is continuously attracted by enormous quantities of sensory, emotional and cognitive stimuli. These are children who are deprived of their need for magical moments and the restoration that can be found in nature. In such situations of limited contact with nature, Stephen Kaplan proposes the practice of meditation as a means to reinforce the restorative power of direct attention. Kaplan suggests that people

> with little meditation training attempting to meditate in an environment arranged to have only modest restorative properties can experience more recovery of directed attention capacity than either the same person in the same environment who is not attempting to meditate or the same person trying to meditate in an environment that offers fewer restorative properties (Kaplan 2001, 500).

We wanted to put into practice Kaplan's hypothesis, using the practice of mindfulness as a tool for the recovery of direct attention, as well as the recovery of the dimension of direct contact with nature, starting with awareness of one's own senses (Kabat-Zinn 2005). In its essential form, the practice of mindfulness is a practice of active silence, which offers the opportunity to experience moments of suspension from the multiple aural and visual stimuli and to enter into a relationship with one's own internal space. On such premises, we developed an experimental educational activity of *active silence training* (AST) addressed to primary children, with the aim of stimulating biophilia through the recovery of attention (Barbiero et al. 2007). One hundred twenty children from a primary school in the town of Aosta, Italy, took part in a series of experimental activities that were part of a study aimed at evaluating the efficacy of AST in the process of direct attention recovery. AST makes use of silent observation as a tool for knowledge of oneself and of one's own body, and play as a moment of fascination involving involuntary attention (James 1892), allowing voluntary attention to rest and regenerate (Kaplan 1995). The experimental protocol set out to measure some baseline physiological parameters and a series of tests of direct attention before, during and after AST. The results appear to support Kaplan's hypothesis: as compared to the control group, children in the experimental group were significantly quicker in the direct attention tests (Barbiero 2007). If the practice of active silence was proved to be able to recover children's attention capacity, it could constitute the basis of an educational program aimed at revealing children's biophilia and a new and original way to develop their naturalist intelligence (Gardner 1999).

NOTES

1. Ministerial decree of May 26, 1998. Published in the *Gazzetta Ufficiale*, July 3, 1998, *n.153–Annex B*.
2. This is translated from the Italian *laboratorio,* which in contexts outside disciplinary science might be better translated as "workshop." The word *laboratory* has been left throughout.

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