God makes all things good; man meddles with them and they become evil.

—Jean-Jacques Rousseau

Jean-Jacques Rousseau believed that Nature is master. Children acknowledge this truth perhaps better than most adults. Nature gives life to humanity and provides humans with the tools necessary to survive. Even as an infant, Nature urges the child to scream for nourishment. As children, humans trust their master. The idea of resisting their human nature does not exist. Although it is not natural for humans to remain children, it is also not natural for humans to resist Nature. But as the child matures into adulthood, social conditions deceive humans into thinking control is in the hands of humanity. The urge to heed Nature’s call and fulfill one’s self with natural sustenance is suppressed and replaced with the illusion of control. It is this attempt by humans to feed on the unnatural sustenance of control that leaves them starving for something more.

For humans to satiate their hunger pangs, they must heed the call of Nature. Humans must be allowed to connect with the nature of their being. Modern society disrupts this connection through formal education. In the United States, formal education has been standardized. Education in the United States is not about connecting with the nature of one’s being, but about the attempt to control the future by manipulating both one’s natural urges and the natural environment to ensure individual economic gain. For a single human being, this illusion of control rests on the manipulation of one’s actions. For a society of human beings, controlling the future requires all members to act in a predictable pattern in a predictable environment. Rousseau argues that a proper education is one that does not include constructs created by humans for the purpose of controlling other humans. A proper education is one that allows Nature to teach humans according to their nature.

PART I: ROUSSEAU’S PERSPECTIVE AND ITS IMPORTANCE

Rousseau suggests that there are three teachers that educate humans: Nature, things, and man. For humans to experience harmony, all three teachers

must be synchronized. Since humans cannot control Nature, and humans have little control over things, the master teacher must be Nature. In Rousseau’s understanding of Nature, absolutes exist. The fundamental patterns of Nature are inalterable by any force other than Nature itself. Even when Nature does appear to alter its own pattern, it is often only a temporal necessity that will, in time, allow for the natural order to reassert itself. For example, trees always grow vertically. Although a man may argue that he has witnessed a tree growing horizontally from the side of a mountain, or even surmise that he himself altered the nature of the tree by planting it on the side of the mountain, in due time Nature will bend the tree, and the man’s illusion of control, to its will.

The same can be said for the nature of humans. Like the tree, humans have a natural way of being. Humans are formed from Nature and their fundamental patterns are best understood through the instruction of Nature. Although humans may delude themselves with a fundamental role in the direction of human development, human influence is always tempered by time. Rousseau suggests that the best thing humans can do for their own education is participate in, and avoid interfering with, Nature’s way.

Rousseau’s conceptions of Nature, human-nature, and the place of humans in Nature are not uncontested. Aristotle, René Descartes, Thomas Hobbes, and Francis Bacon all offer different notions of Nature. According to Rousseau, the state of Nature (i.e., what is natural) can be understood through two fundamental characteristics. The first and most basic characteristic of Nature is self-preservation (amour de soi). The second characteristic, which is a product of the first, is a compassion (pitie) for all sentient life. These two fundamental characteristics are what Rousseau considers to be “natural.” In other words, that which preserves one’s life and seeks to preserve the lives of others is natural.

According to Rousseau, the “unnatural” is a form of narcissism (amour propre) that arises when humans interact in ways that emphasize individual rather than mutual gain. From birth, humans do not have the capacity to survive independent of others. This reality suggests that certain forms of human interaction are natural and that humans have an important role in the education of others. However, Rousseau argues that when human interactions violate self-preservation or compassion and are manipulated to benefit people in positions of power they become unnatural.

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2 Rousseau, Emile, 12.
4 Ibid.
5 Ibid.
It might be argued that since humans are within Nature, all human actions must be natural. This argument is weakened, however, by Rousseau’s notion of free will. Although a fundamental characteristic of Nature is self-preservation, a human being can act against Nature (i.e., “unnaturally”) by taking his own life. This form of self-destruction can occur knowingly or unknowingly at an individual or a group level. In other words, humans can commit suicide and knowingly destroy their own life or they can act in ways that benefit a small percentage of the group and unknowingly destroy all of human life.

Recall that Nature’s fundamental characteristics are self-preservation and compassion. This means that adopting Nature as a standard of goodness for human life would mean that, as humans, we must act in ways that both preserve our individual lives and work to preserve the lives of others. Framing Nature as that which preserves life makes using Nature as the standard of goodness for human life the only natural action.

Some may argue that Nature does not represent a proper standard of goodness because certain acts of Nature destroy different forms of life, thus making those acts appear unnatural (e.g., natural disasters, disease, etc.). In fact, those acts are ways of maintaining a critical balance that ensures the preservation of life *in toto*. As humans we do not have the knowledge necessary to maintain that proper balance so we must seek to understand our role in Nature so we can knowingly aide in the preservation of all life rather than unknowingly violate Nature’s way.

Obviously, these claims about Nature are murky and contestable. Rather than defend them here, I wish only to sketch what implications Rousseau’s notions might have for education. Rousseau’s ideas about humans, Nature, and education are important to consider today for two primary reasons. First, the system of education in the United States is becoming increasingly standardized around measures of economic success, which, according to Rousseau, only gives people the ability to “purchase imaginary ease, at the expense of real happiness.” As the system of education in the United States becomes more standardized, opportunities for children to explore their natural curiosities become less frequent, if not disappearing entirely. This creates conflict between what a child feels naturally drawn to and what society pressures the child into. This intense conflict is exactly what Rousseau warns against when he states that all three teachers (i.e., Nature, things, and man) must be synchronized for humans to experience harmony.

The second reason to explore the implications of Rousseau is that human beings in the United States are becoming increasingly distanced from the natural environment. Richard Louv’s term *Nature Deficit Disorder* has

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*Ibid., 18.*
become a popular way of describing this phenomenon.\textsuperscript{7} Louv’s purpose for introducing this term was to point out an extreme divide that has emerged in the United States between humans and Nature. One attempt to address this human/Nature divide through education can be found in David Sobel’s book titled \textit{Beyond Ecophobia}.\textsuperscript{8}

\textbf{PART II: EDUCATION AND THE SELF}

\textbf{Education: Civilizing The Natural Self}

In \textit{Emile}, Rousseau confronts the process of formal education and suggests that humans “educate” the nature out of children.\textsuperscript{9} Rousseau asserts that this process of “teaching” is an intentional way for society to interfere with Nature. Society uses “education” to civilize children. According to Rousseau, this form of education is not meant to benefit the realization of each human’s natural self but to socialize humans into predictable and acceptable forms of behavior. Rousseau compares “scholars” to peasants.

Your scholar is subject to a power which is continually giving him instruction; he acts only at the word of command; he dare not eat when he is hungry, nor laugh when he is merry, nor weep when he is sad, nor offer one hand rather than the other, nor stir a foot unless he is told to do it; before long he will not venture to breathe without orders.\textsuperscript{10}

In contrast, Rousseau asserts that a child who has been educated by Nature will be self-reliant and use reason to guide his action. The child will allow his mind and body to work together to enhance his understanding of the world. Through this natural form of education, the child will develop his own ideas and be governed by his own will, not the will of others.

Taking Rousseau’s position into the modern form of education, Gotz states that schools confuse children about the very nature of education and learning.\textsuperscript{11} In school, children “learn” that being “taught” is the only valuable way to “learn.” Schools then further confuse children by equating schooling with education and with the process of learning. In this process of schooling, the child’s sense of self is eliminated. The child’s natural desires are devalued and the child is taught to focus on what she or he is told is valuable knowledge.

By separating the child from his or her own creative urges and defining the learning process as schooling, “education” becomes a wedge

\textsuperscript{8} David Sobel, \textit{Beyond Ecophobia: Reclaiming the Heart in Nature Education} (Great Barrington, MA: Orion Society, 1996).
\textsuperscript{9} Rousseau, \textit{Emile}, 12-15.
\textsuperscript{10} Ibid., 92.
between the student and his or her self-realization. Children are taught how to live and are educated to become whatever they are taught. Hung suggests that this idea has been perpetuated through the process of schooling and remains a central tenet of the current system of education. This form of education serves to alienate children from their natural self and civilize them for social reproduction. It ensures predictability and reinforces a fear of the deviant or unknown.

This fear of the unknown permeates the modern system of education and discourages exploration, discovery, and curiosity by enforcing rules created by humans to keep children “safe” from the unknown. This unknown can be described as that which humans do not understand, and which may cause harm to humans if explored, or as ideas that have yet to be created – ideas that have no standard of evaluation based on current knowledge.

By combining these two descriptions, it is clear that our current system of education perpetuates a fear of what new knowledge might do to the human condition. Instead of embracing the possibility of the unknown, our system of education employs rigid learning processes and standards to replicate current forms of discovery and then tests children to ensure that proper learning has occurred.

Through the functions embedded in the current system of education, “learning” can be seen as simply how to use tools. This form of learning may best be defined as training, however, not education. The purpose of being trained how to use a tool is only to use the tool. True learning (i.e. education) is the result of using a tool. Required processes within the current system of education limit children’s “learning experiences” to rigid “training procedures,” but educational policy makers still claim to afford children an educative experience. Gotz addressed this very issue when he said that schools confuse children by equating schooling with education and the process of learning.

Subjects like music, English, and math are simply tools that children use to explore, discover, and create new ideas and knowledge. In other words, subjects like music, English, and math are learning tools. Being trained how to properly use a subject matter is not the end of learning; it is a means through which one can learn. By being trained how to use math, one does not explore or create anything. It is only through the use of math that one begins to explore, discover, and create. The same can be said for all subjects. Music may be the best example of this. Music classes teach children how to use their instruments (tools of music) to create music. Those instruments may be the actual musical

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instrument, but they may also include sheet music or other necessary tools to help the musician create music.

By limiting children’s “education” to the training process of how to use a tool, schools change learning from the use of a tool – which is a process of exploration, discovery, and creation – to a method of imitation on how to use the tool. Self-realization is suppressed and children are taught how to imitate a process but are never given the educational experience of using that process.

**Education: Realizing The Natural Self**

To give children an educative experience that allows each child to realize his or her natural self, schools must become learning-shops, the educational equivalent of a wood-shop. If we think of a school like a big wood shop, music, English, and math become the equivalent of the jointer, table saw, and sander. Children must be given the freedom to enter the learning-shop (wood-shop), be given training on how the tool is intended to be used, and then be given the freedom to use the tool and create. This process of creation, or using the tool, is where the child can best realize his or her natural self.

For a child to realize her natural self, she needs the liberty to explore and satisfy her curiosities, desires, and wants. When children are given the liberty to explore and satisfy their own urges, children become independent and learn to rely on their own capacities. It is often difficult for educators to avoid prescribing children with a rote doctrine of knowledge, behavior, and emotion because of the human ego. Educators often believe that children only learn what they are taught. Believing this fallacy, the educator attempts to make each child a mirror of her own self. Society then reinforces this behavior by praising the educator whose child repeats the words she has been taught.

Rousseau contends that the child who is praised for repeating the words of her educator is not knowledgeable but merely trained. The child has no idea of what the words really mean. The child only knows how to repeat words. Even worse, the child has been “educated” to suppress her natural self and has been trained in the ways of “man.” When the nature of the child is allowed to be realized, the child will learn that her mind and body work together and she will be constantly seeking her own reasons through feelings, discrimination, and forethought. The goal of the child will no longer be mimicry but self-realization. As a result, the child will not chatter mindlessly, but act knowingly.

To the future educator, Rousseau says,

Young teacher, I am setting before you a difficult task, the art of controlling without precepts, and doing everything without doing anything at all. This art is, I confess, beyond your years, it is not

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14 Rousseau, *Emile*, 90.
15 Ibid., 81-84.
16 Ibid., 80.
calculated to display your talents nor to make your value known to your scholar's parents; but it is the only road to success.  

Some modern philosophers, including Michael Bonnet, Ruyu Hung, Freya Mathews, and Arne Naess, have advanced Rousseau’s ideas of Nature and self-realization by extending self-realization into a framework of ecology. The concept of self is often considered an independent construct that acts in competition with Nature. This conception of the self does not consider the necessary environmental conditions that give the self its very life. To explicate this conception, Mathews states that the “I am” is constituted by my ecological relations with elements of my environment – relations in the image of which the structures of my body and consciousness are built. I am a holistic element of my native ecosystem, and of any wider wholes under which that ecosystem is subsumed. Since this is part of my essence, I cannot be said to flourish, to actualize the potentialities of my nature – in a word, to be fully self-realized – unless I do stand in these relations.

According to Naess, complete self-realization depends on the self-realization of all living beings capable of self-realization. This interconnectedness means that the self-interest of each one’s attempt to realize self requires the preservation of all the elements in our ecosystem that give life to all of the living beings in pursuit of self-realization. Mathews suggests that humans are not the only living beings in pursuit of self-realization. For a living being to be in pursuit of self-realization it must have a will to exist. The will to exist can be demonstrated through self-preservation, self-increase, and self-perfection. Based on this conception of self-realization, human self-realization is inextricably bound up with the self-realization of life in all its myriad forms.

For children to realize their selves as unique yet interconnect part of Nature, the school environment must reflect the interconnectedness of all Nature and honor the natural process of each child’s unique form of self-realization. To do that, Roseman emphasizes the importance of using Maslow’s

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17 Ibid., 93
19 Ibid., 128.
According to Maslow’s hierarchy of needs, self-realization is the last item on the basic needs scale. This means that schools must first become an environment that fulfills the physiological, safety, belonging, and esteem needs of children and then encourages children to explore ideas and knowledge for the purpose of self-realization.

PART III: EDUCATION AND SOCIETY

Education And Social Progress: Taming Nature

Historically, humanity has viewed Nature as something outside of itself. This anthropocentric view of the world has created a dividing line between humanity and Nature. This vision of Nature considers Nature solely as a resource to be manipulated for the benefit of humans. This division between humanity and Nature has often led to the acceptance of environmental abuse for the benefit of humankind. The current structure of formal education reinforces this vision of reality in a variety of ways.

The environment of formal education is often divorced from any “natural” setting. School walls separate the school environment from the natural environment. Windows provide a medium for children to view what is “out there” and remain enclosed by the safety of the school environment. Shades are often closed to prevent children from distraction. The light from “outside” is recreated “inside” through electricity and “man-made” devices. Potted plants might be brought inside but often for aesthetic purposes only. Natural sounds are replaced with sounds from the radio, television, and other humans.

Outside the school, natural settings are paved over to create playgrounds for children. Rubber mats are used on the playground in place of the earth to provide children with a safe environment. The playground is swept clean of dirt, leaves, and other natural elements. Fences are erected and, for their safety, children are told to stay within the boundaries of the school. Simply through the school “environment,” children learn that Nature must be controlled to be safe.

Beyond the physical environment of the school, the metaphysical constructs from which schools operate “transmit ways of relating to the world – of being in it and of interpreting it.” Bonnet states that the most tangible

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25 Ibid.
26 Ibid.
realization of a metaphysical construct in the school is empirical science.\textsuperscript{28} Through empirical science, human beings have used rational thinking to envision Nature as something humans can predict and control for human advantage. Children learn that for human progress to be successful humankind must be the dominant species and all of Nature must be tamed. Feminist writers, such as Carolyn Merchant\textsuperscript{29} and Val Plumwood,\textsuperscript{30} have classified this metaphysical vision of Nature as aggressive, while Fritjof Capra\textsuperscript{31} labeled it vicious. Ultimately this vision of Nature is destructive and, without an awareness of interdependence, will destroy human life.

**Education For And Through Nature As Social Progress**

Hung concludes that, “if one is one’s body, and one’s body shares the corporeality of Nature, there might be the inner- and inter-relationships between one’s body and Nature.”\textsuperscript{32} This deep sense of interconnectedness reveals the need to tend and care for Nature since humans are, in fact, a form of Nature itself. The current system of education does not consider this type of relationship between humanity and Nature and reinforces a human Nature divide.

Education can provide children with a vision of Nature that is not separated from humanity. This would require all educational disciplines to become conscious of the vision of Nature produced through their subject matter.\textsuperscript{33} In an effort to realize the place of Nature through all disciplines, a conscious conception of Nature that honors the relationship between humankind and Nature could be produced. Hung offers a new word that represents a conception of Nature held through all educational disciplines and emphasizes the interdependent relationship between humans and Nature: ecophilia.\textsuperscript{34}

To realize this sense of ecophilia, education must expand its methods of learning to include natural experience.\textsuperscript{35} Instead of using symbols and language to objectify Nature so that children can learn about Nature, it is critical to provide children with access to encounter the natural processes of Nature. Schools have often used indoor experiments as a way to replicate natural processes. However, there is a difference between natural experience

\textsuperscript{28} Ibid., 594.
\textsuperscript{32} Hung, “Educating For and Through Nature,” 362.
\textsuperscript{33} Ibid., 357.
\textsuperscript{34} Ibid., 358.
\textsuperscript{35} Ibid., 362-364.
and indoor experimentation. Indoor experiments remove natural conditions and emphasize a solitary interaction. This oversimplifies the natural conditions of Nature in which all things are affected through any given interaction.

A natural way to realize ecophilia and educate children for and through Nature would begin by including the natural qualities of human life in the idea of learning. This would mean honoring the natural inborn qualities of humanity such as feelings or sensations. In formal processes of education, the body has often been considered inferior to the mind, which has been viewed as an agent of rationality to govern natural urges. By experiencing one’s self as Nature, and using one’s mind to understand and connect with one’s natural urges, both one’s body and mind become one’s natural teacher.

For education to be for and through Nature, one must experience the ways in which one affects the natural world and the ways in which the natural world affects one’s experience. Orr asserts that, “Real learning is participatory and experiential, not just didactic….Direct experience is an antidote to indoor, abstract learning.” When education includes direct experience into its conceptions of learning, the changeable condition of the world is realized as interdependent. When education is done for and through Nature, children envision Nature as an inherent part of all interaction. This relationship turns education and learning in all disciplines into “an approach to reflect and reshape the way of life and series of experiences aimed at understanding and loving oneself as well as the world.”

To realize the type of educational environment discussed above, Smith suggests that schools adopt a place-based curriculum. According to Smith, there are six core elements of a place-based curriculum:

(1) teachers and students use local phenomena to develop curriculum, (2) students become the creators of knowledge rather than the consumers of knowledge, (3) students’ questions and concerns determine what is studied, (4) teachers act as experienced guides and co-learners, (5) the school and the community become a co-operative, and (6) students’ work is assessed based on its contribution to the well-being and sustainability of the community.

By implementing a place-based curriculum, children are given the freedom to be guided by their natural urges. The natural phenomena that the children

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36 Ibid.
40 Ibid., 593.
encounter in their place provide them with natural experiences that lead to inquiry and creative discovery. The child’s urges to inquire become tools of the learning process and the child realizes the interconnectedness of her life and her place in the natural world, encouraging a sense of ecophilia.

CONCLUSION

For a child to realize his interconnectedness with all of Nature, the current system of education must be done both for and through Nature. For a child to realize her natural self she must be given the liberty to explore her natural urges by engaging with meaningful learning tools. It is through the process of using a learning tool to explore one’s self through one’s natural environment that learning takes place and one is educated. When children are equipped with the tools to learn, given the freedom to use the tools, and given the support to refine, re-work, and recreate, children become active creators and stewards of the natural environment and begin to realize their natural self.

Taking Rousseau seriously would reveal the damage our current system of education does to all of Nature (humans included). By perpetuating the idea that “humans” are divided from that which is “natural,” the current system of education teaches children to overcome their natural urges and tame the natural environment. Through these practices, many children learn to fear Nature. If this form of “education” is not transformed, and Nature is not conceptualized as a natural feature of humanity, Rousseau would warn that humanity will not only destroy its process of self-realization, it will destroy all of human life in general.