at HOME in the WORLD

Human Nature, Ecological Thought, and Education after Darwin

Eilon Schwartz

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Human Nature, Ecological Thought, and Education after Darwin

Eilon Schwartz

SUNY PRESS

This book is dedicated to the memory of

Tzvi Kress,
my zeidi,

and to

Nathan Schwartz,
my father.

Their gentleness, generosity, and empathy
for others taught everyone around them about the
depth and breadth of human goodness.

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Contents

Published by
State University of New York Press
Albany

Printed in the United States of America

For information, contact
State University of New York Press, Albany, NY
www.sunypress.edu

Production, Laurie Searl
Marketing, Anne M. Valentine

Library of Congress Cataloging-in-Publication Data
Schwartz, Elion, 1958–
At home in the world : human nature, ecological thought, and education after Darwin / Elion Schwartz.
p. cm.
Includes bibliographical references and index.
ISBN 978-1-4384-2625-9 (hardcover : alk. paper)
1. Nature and nurture. 2. Evolution (Biology) 3. Social Darwinism. 4. Dewey, John, 1859–1952. I. Title.
BF341.S38 2009
370.1'2—dc22 2008042784

10 9 8 7 6 5 4 3 2 1

Acknowledgments

The writing of this book spans the early childhood years of Ayelet and Chen, my two oldest children, the birth of the newest addition to the family, Eden, and then some. Ten years of study and its distractions allows you to build a rather impressive list of people and places which will remain forever linked with this journey.

Prof. Avner De-Shalit, my doctoral advisor and more, epitomizes for me the rare but so desperately needed combination of intellectual rigor and human warmth and generosity. It was deceptively easy for me to make the arguments of this book on the fundamental decency of human beings with Avner around. The Melton Centre for Jewish Education in the School of Education at the Hebrew University has been my academic home, and they have been extraordinarily supportive in allowing me to pursue my interests far beyond the usually defined borders of "Jewish education." I had the rare pleasure of spending a sabbatical year at the Global Environment Program at the Watson Institute for International Studies at Brown University, where I worked on the adaptation of my doctoral thesis into a book. Providence is a great little city, Brown a great university, and both a welcome respite from the hustle and bustle of life in Tel Aviv. Laura Sadovnikoff and Prof. Steven Hamburg helped me set up a second home while there, welcoming me into the stimulating Brown and Watson communities. And I am indebted to Dr. Daniel Orenstein for having encouraged and helping to facilitate the year at Brown.

While on sabbatical I took a leave of absence from The Heschel Center for Environmental Learning and Leadership, and my friends and colleagues needed to often work extended hours filling the gap of my

absence. A special thank-you goes to Orli Ronen-Rotem, whose generosity of time and spirit allowed me to be away for the year. Dr. Noah Efron of Bar Ilan University critically read the original doctorate on which this book is based, and, in sharing intellectual concerns so very similar to my own, has been a welcome sounding board for working through ideas. And no list of thank-yous is complete without thanking Dr. Jeremy Benstein, my extraordinary colleague and friend for a quarter of a century, whose conversation throughout the years has always served to inspire and challenge my thinking and commitments.

The Dorot Foundation supported my work with a generous fellowship. Dr. Ernie Freirichs did not hesitate for a moment when I approached him as representative of the foundation about possible funding, and his belief in the importance of my academic pursuits was, and continues to be, greatly appreciated. Charlotte Talborth of the Levinson Foundation also helped out with additional funds. The Cummings Foundation helped to support my work during our sabbatical in Providence. Peter Teague, head of Cummings' Environmental Program, enthusiastically extended his help, and it is an honor to have him as a colleague. My family and I will be forever in debt to all of them and their respective foundations for not allowing the project to sink us into a huge financial hole.

My brother shared with enthusiasm his pride in my accomplishments—no easy thing for two boys who grew up on sibling rivalry. I was raised, among other things, on my mother's critical abilities, and the conversations late into the night growing up around the table were undoubtedly one of the original sources of my own critical facilities. Rachel, my wife, while working a full-time job, researching her own thesis, and raising three children, miraculously managed to carve out space for my work, as well.

There are many gifts that my marriage has brought, but in the context of this book, none has been more significant than the three amazing kids that complete our family. Writing about human nature with new life surrounding you is a reliable way of making sure that theory and practice, philosophical and empirical inquiries remain tightly linked. No one was going to tell me that they were blank slates as I saw their personalities emerge at the earliest moments of life, and no one was going to convince me that humans are born selfish as I delighted in the daily affections of fatherhood.

Finally, this doctorate is dedicated to the memory of my maternal grandfather, Zvi Kress—Zeidi, as his four grandchildren affectionately called him from the Yiddish—and to my father, Nathan Schwartz. Although they were not related biologically, they were both living proof

of the profound decency of which human beings are capable. Their memories shine for me as a moral beacon as to how to live a life that is infused with a seemingly effortless love, concern and commitment for family and friends, the Jewish people, and, with little exaggeration, for human beings wherever they were met. Beyond the philosophical arguments of this book, I hope that I have conveyed the lessons of this inheritance in the pages before you.

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CHAPTER ONE

The Making of Darwinism

The contemporary debate about the nature of human nature, centering around the implications of Darwin's theory of evolution, is the newest chapter in a long history of explorations. Conflicting ideas about human nature have always sat at the core of philosophical debates, often educational ones. Plato and Aristotle, for example, had differing views on human nature, and thus different approaches to educational philosophy.[1] So too did Descartes, Hobbes, Locke, Hume and Rousseau.[2] Whether we are essentially atomistic or social beings; whether we are primarily motivated by selfishness or altruism; whether our rationality is an extension of, or at war with, our emotions—all these are of critical import for defining what education can and should be. However, Darwin's theory of evolution radically changed this historical debate on human nature, offering for the first time an empirical basis for the normative discussion. At its heart, I argue, is a simple but far-reaching insight—we have evolved as a profoundly social species, biologically related to the rest of the natural world, and at home in the only planet in the universe for which we are adapted to live. Such a view of human nature, rooted in our best scientific knowledge, has significant implications for how we think about educational philosophy.

Not all proponents of Darwinism, of course, agree with such an interpretation of the meaning of Darwin's theory of human nature. While debates continue to rage between Darwinists and anti-Darwinists, making headlines most recently with the evolution versus intelligent design debates, internal debates between Darwinists are often no less heated. Many Darwinists have essentially continued what can be called the blank slate worldview, a view which has had tremendous

influence on progressive ideas. The most famous of such advocates is Stephen Jay Gould, who argued that, although evolved from the rest of the natural world, our intelligence has largely allowed human beings virtually unlimited plasticity.[3] Differences in society are matters of sociology, not biology. And if human society created the differences between rich and poor, black and white, men and women, human society can also erase those differences. The blank slate position, with roots in John Locke's liberalism, gained much influence in the early twentieth century as a reaction to the use of Darwin's theories to justify supposed innate differences between people. Gould continued the tradition of the blank slate, but explained it in Darwinian terms. He called it 'biological potentiality.' As his ideological compatriots argued, biology could probably only explain the most basic human behaviors of "eating, excreting and sleeping."[4] Education in this view has the power to correct social inequalities, and to help reshape human society based on a chosen set of progressive social values.

Richard Dawkins has served as Gould's foil, and in many ways defines the other pole of the debate. Dawkins' extraordinarily powerful metaphor of "selfish" genes suggests an underlying moral truth about the world, where the innate nature of human beings, like the rest of the natural world, can best be described as selfish.[5] Reaching back at least to Hobbes' description of the ultimately self-serving, aggressive and competitive nature of human life, and resurrecting motifs from popular notions of social Darwinism from the late nineteenth and early twentieth centuries, in which such behavior was celebrated as the motor of progress, Dawkins and his supporters accept social Darwinist descriptions of human nature. However, unlike the social Darwinists, Dawkins holds that our natures, like in Freud's psychology, are not our allies. We need to rebel against our genes if we want to create a humane society, but we always need to know that our efforts will be thwarted by our natures, and therefore we need to have realistic expectations about what is possible.[6] In educational terms, our rationality, while always compromised by our baser motives through rationalizations, is our major, if flawed, tool with which to combat our innately selfish motives. Our ideals are built through rational inquiry, transcendent and in opposition to our natures.

It is interesting and important to notice that, although Gould and Dawkins stand in some sense as polar opposites, their worldviews share one very central and critical characteristic. Both see human ideals as originating through rational thought, which can stand independent of genetic determinism, and which is something uniquely human. For Dawkins, our ideals are a rebellion against an insidious nature; for Gould, there is

nothing to rebel against. But for both, the natural world is not prescriptive for human beings.

I argue a different position. Following in the footsteps of Kropotkin, Dewey and the contemporary philosopher Mary Midgley, I hold that, indeed, humans have an innate nature, and that, while not dictating human actions, it shapes them far more widely than Gould would accept. However, unlike Dawkins, I hold that we are not at war with ourselves. We are a coherent species, like all species, and our motives and intellect are integrated, not conflicting, parts of a whole. Nor are we innately selfish beings, in competition and at war with each other. Our innate natures can be trusted as good, although certainly not foolproof, beginner's guides which are shaped through our intellects and cultures, and which lead us outward and help to structure life's meaning.

This book, then, argues for a particular interpretation of Darwin, one which affirms that humans indeed have an innate nature, but that it is largely cooperative rather than competitive, social rather than self-centered, communal rather than atomistic. This is not to say that motives of aggression, selfishness and individualism, for example, are socially constructed and foreign to innate human nature. They too, are part of the human condition. While they can indeed be destructive, as can any motive when it eclipses all others, they are more properly seen as moderated by a complex set of interconnected emotions which emerge in a wide set of human behaviors. Evil is a real possibility, but it is not predetermined by our genes. I believe, as shall become evident, that this is a proper interpretation of Darwin, and that such a position can form the basis for a compelling educational philosophy.

I use the term 'innate' provocatively, but also warily. I am not ignorant of the massive amount of literature which exists, contextualizing scientific theory within social ideas and ideals. As is popularly known, we are all postmodernists now. Still, there is a very large difference between staying aware of the ways in which science and culture interface and deeming all scientific claims to be nothing more than hegemonic ideologies writ in supposedly scientific objectivity. The explanatory power of science is too great to deny its descriptive power of the world. Darwin was certainly a child of his times, and his Victorian ideals, and prejudices, are often painfully present. But his ideas can also transcend his times, even as they are embedded within them.

There are five parts to my argument, divided by chapter. In the first chapter, I look at Darwin's theory, and demonstrate why, although open for interpretation, the seeds for a cooperative view of human beings are planted by Darwin himself. In the second chapter I illustrate first attempts

to build an educational philosophy based on such a perception of human nature, concentrating on the earlier attempts by Peter Kropotkin, and then, subsequently, in the third chapter, the far more sophisticated and integrated attempts of Dewey. Kropotkin and Dewey are both examples of what I call first-generation Darwinists. In the fourth chapter, I analyze the work of the contemporary British philosopher Mary Midgley, a second-generation Darwinist, and her expansion of Darwin's intuitions about human nature into a robust view of human nature, and its implications for our connection with the natural and social world within which our lives find and express their meaning. I believe Midgley's philosophy powerfully recasts an Aristotelian worldview out of Darwinian biology, one in which our natures significantly help us to define the good, and move us in its direction. This Aristotelian tendency is present already in Darwin, and is developed by Kropotkin and surprisingly by Dewey. Finally, I look at what a contemporary Darwinian educational philosophy emerging from Kropotkin, Dewey and Midgley's philosophies looks like, a philosophy rooted in our understanding of ourselves as part of, and not apart from, the rest of the natural world.

DARWIN AND THE GOOD IN HUMAN NATURE

> "He who understands baboon would do more toward metaphysics than Locke" (Darwin 16 August 1838. M notebook).

Darwin was in many ways the first Darwinist—that is to say, he understood that his theories on the evolution of the natural world had implications for how we understand human life and its meaning. In *On the Origin of Species,* however, he consciously ignored these implications, save for his closing paragraph's cryptic phrase: "light will be thrown on the origin of man and his history. . . ."[7] Darwin knew that evolutionary theory, when applied to human beings, would explicitly confront contemporary cultural and religious views of human origins and the meaning thereof. By tactically separating the question of evolution from that of human origins and meaning (although it was implicit in his argument), Darwin gave his theory of evolution a greater chance of being accepted. After the general theory gained legitimacy, Darwin assumed, it would be politically easier to address its meaning for human beings.[8]

Darwin's theory of evolution, as articulated in *On the Origin of Species,* was controversial enough. Ernst Mayr shows the ways that evolutionary theory as a scientific claim about the origins and development of the natural world challenged accepted orthodoxies, secular as well as religious.[9]

Darwin's theories, inspired by Malthus's theory of population growth, held that there was an inevitable *struggle for existence* of organisms, owing to the geometric growth of populations versus the arithmetic growth of resources.[10] Since resources cannot keep pace with population growth, eventually there would be a struggle for survival. Organisms of a species *vary* from one another in subtle ways, and those characteristics are *inherited* in the next generation—two facts which breeders had known for millennia. Characteristics which improved the survival skills of the individual would then be successfully passed down to the next generation, whereas those individuals who were less fit would be less successful at surviving, and their traits would be less likely to continue into the next generation. Over extended periods of time the traits that led to increased fitness would spread throughout the population. This change of traits within a population could eventually lead to the evolution of a new species. If populations of a species were isolated from one another, for example, they would change independently of one another, and could eventually develop into distinct species. By showing that species were not stable and timeless entities, but rather constantly in flux, Darwin was changing the concept of species from a static one to a dynamic one, in which the boundaries between species are matters of degree, and not kind. Darwin called this process leading to species change and speciation *natural selection*. While breeders had purposefully selected traits among a species, here nature was doing the selecting. The power of the theory is in demonstrating a material mechanism that could explain how species change and can, over geologic time, evolve into new species.[11]

Darwin clearly stated that he used the concept of the struggle for existence "in a large and metaphorical sense."[12] It is often a struggle between organisms of a species, where one organism is more successful than others owing to certain physiological or character traits. This is the accepted meaning of struggle for existence, which Herbert Spencer popularized in his phrase "survival of the fittest," but Darwin pointed out that it is not the only way that the struggle takes place.[13] The struggle for existence can also be a struggle for survival against the natural elements. Particularly in the extreme environments of deserts, mountains and tundra, for example, the struggle is in finding ways of exploiting nature successfully in order to survive.[14] Strategies of cooperation among individuals are particularly successful in such climates. Peter Kropotkin, the Russian prince, anarchist and first-generation Darwinist (that is, those applying Darwin's scientific ideas into its social implications in the years immediately after the publication of Darwin's theories), gave special attention to this form of struggle for existence, due to his natural

history education in the extreme climate of Siberia, and this significantly influenced his views on the meaning of nature and human nature, as we shall see. Darwin however, while maintaining that there are more possibilities for evolutionary struggle than that between individuals, nevertheless held that the struggle between individuals of the same species is the most significant and widespread variety of struggle that one actually finds in nature.[15]

The distinction is an important one. Although Darwin saw actual struggle between individuals as the primary strategy for surviving in the natural world, Darwin acknowledges that it is but one strategy, and that cooperation, for example, is an alternative strategy for survival. In other words, although 'struggle' as metaphor describes what individuals and species do, there are multiple strategies that can work. Struggle between individuals is not the only alternative open to species. For Darwin, as we shall see, cooperation is in fact the dominant strategy of the human species.

Darwin's use of the term 'struggle' ultimately did not apply to simple physical survival. From an evolutionary perspective survival is not an ends in itself, but rather a necessary although not sufficient condition for having descendents. Longevity is only important insofar as allowing a long enough lifetime to have offspring, in order to pass one's characteristics down and have them spread through subsequent generations. An organism whose life span might be several hours, but who produces thousands of offspring, many of whom survive to themselves reproduce, is more successful from an evolutionary perspective than an organism of the same species which lives longer but produces fewer descendents who can survive and reproduce. Natural selection is not purposeful. Its sole criteria are the effects of physiological or character traits on the success of the organism to pass on its features to the next generations. Traits which contribute to such success relative to other traits gain precedence, since they give the organism a competitive advantage and thus a greater chance of survival and reproduction.

Because successful strategies of survival are ultimately linked to questions of reproduction, Darwin spoke of sexual selection as a secondary filter for evaluating traits.[16] Both females and males have an evolutionary interest in finding a mate with desirable traits to pass on to their prodigy, including traits which will secure them an evolutionarily desirable mate. This can lead, for example, to the selection for physical strength, a potentially desirable characteristic for winning a sexual partner. In bird species, Darwin showed that males often advertise their physical strength through peaceful means—such as being the most colorful, or having the most attractive birdsong. Darwin recognized that, because

of the centrality of reproduction in natural selection, the competition for sexual partners was critical and would lead to different sets of traits being advantageous to males and females, with clear implications for innate differences between men and women.[17] Darwin's attempts to describe these differences were not his best moments, as we shall see.

Darwin did not see natural selection as the sole means of modification of the species. Although many later Darwinists, principally Dawkins and his advocates, see natural selection as the almost exclusive way in which species evolve, Darwin allowed room for other mechanisms, as well. He recognized that there might be other factors involved in evolutionary change, and expressed frustration that he was interpreted as arguing that only natural selection could explain the development within species, and of new species.[18] He did, however, see it as the most critical and dominant factor.[19] This point is central in contemporary Darwinian debates as well. Gould, in opposing Dawkins, attempted to weaken the explanatory power of natural selection. The implication of acknowledging additional mechanisms is that not all characteristics of a species can therefore be explained through their contribution to a species' fitness. Since for Dawkins, natural selection is the predominant explanation for species' characteristics, all characteristics are shaped by their contribution to survival, which Dawkins ultimately describes as a competitive, selfish process. Darwin's position clearly does not support Dawkins' view, here and elsewhere.

One of the most misunderstood components of Darwin's theories, one with perhaps the most radical of implications, was the blindness of the process of natural selection. Evolution was not, in Darwin's view, a slow, steady climb, as argued by a disciple of Herbert Spencer, from gas to genius.[20] The traditional view of the Middle Ages had been of the great chain of being heading linearly downward from God and the angels to the animals and the plants, and from the animate to the inanimate, with human beings located "a little lower than the angels."[21] Advocates of evolution, both before and after Darwin, reversed the direction. It was a steady ladder of progress, with human beings representing the pinnacle of evolution.[22] Such a view does not seem to conform with Darwin's view of the process of evolution, with random variations of character traits occurring between generations, selected by nature according to their relative contribution to survival and reproduction.

On the Origin of Species was published in 1859. It immediately ignited a debate about its implications, but was also debated within the scientific community. Within a decade Darwin felt that it had sufficiently established itself as a credible theory and had been widely adopted.[23] At that

point, Darwin was ready to deal with the implications of his theory for human beings. The publication of *The Descent of Man* in 1871 was Darwin's foray into the danger zone of human origins, nature and meaning. After the acceptance of his theory of natural selection spread, Darwin felt confident addressing the issue: "in consequence of views now adopted by most naturalists, and which will ultimately, as in every other case, be followed by other men, I have been led to put together my notes, so as to see how far the general conclusions arrived at in my former works were applicable to man."[24]

Darwin focused his work on showing that there is no boundary of significance between human beings and the rest of nature: human beings are not different in kind from the rest of the natural world. All human characteristics can be found in other species. Curiosity, imitation, attention, memory, imagination, a sense of wonder, reason, progress, toolmaking, language and self-consciousness can all be found in the natural world, particularly among other social animals.[25] Darwin argued that humans, like other species, are different from the rest of nature in degree, but not in kind. All species are different from one another, and all have unique properties, but that doesn't mean that they are not part of the same evolutionary story, sharing many common traits on which their uniqueness is built.

No characteristic of human beings seemed to Darwin more suggestive of the illusory gap between humans and the rest of the natural world than morality:

> I fully subscribe to the judgment of those writers who maintain that of all the differences between man and the lower animals, the moral sense or conscience is by far the most important. . . . It is summed up in that short but imperious word ought, so full of high significance. It is the most noble of all the attributes of man, leading him without a moment's hesitation to risk his life for that of a fellow-creature; or after due deliberation, impelled simply by the deep feeling of right or duty, to sacrifice it in some great cause.[26]

Morality was the "ought" of society. Although morality has been largely described as emerging from our rationality, and rationality is often seen as that which most distinguishes us from the rest of the natural world, Darwin believed that the emergence of most characteristics of a species are explained through the mechanism of natural selection. Morality was a central characteristic of human societies. Being able to explain the emergence of morality in evolutionary terms would show

that even the loftiest of human characteristics is rooted in the story of evolution. Darwin was arguing that what societies have come to view as moral behavior has been shaped by natural selection. The "is" of natural selection and its products could explain the origin, and perhaps content, of the "ought" of human morality.

Darwin believed that morality had its basis in social instinct, and that the social instincts were an evolutionary development which instinctively motivated individuals of the species to live in a group, which would give them evolutionary advantages for survival.[27] Like hunger, which developed as an instinct to induce eating (those animals which felt the instinct of hunger were more likely to eat, and therefore had a competitive advantage over individuals who did not feel hungry and would thus presumably eat less), so too the social instinct developed to induce group living. Group living was a successful evolutionary strategy, and therefore social instincts, which encouraged and maintained group living, became favored through natural selection. These social instincts supported a certain personality type, essentially common to all social animals: "they would have felt uneasy when separated from their comrades, for whom they would have felt some degree of love; they would have warned each other of danger, and have given mutual aid in attack or defense. All this implies some degree of sympathy, fidelity and courage."[28] The evolutionary advantage of cooperation with its supporting characteristics emerged out of evolution. From natural selection, which speaks of competition as a mechanism, behaviors of cooperation can develop in species. The human species' strategy of survival was one of cooperation based on sympathy and mutual aid.

Still, it is not clear how Darwin's principles of natural selection could explain the evolution of the moral instincts of sympathy, fidelity and courage from the rudimentary social instincts. If, for instance, in human evolution, individuals living in a group would display acts of courage in battles with neighboring tribes, they would be the most likely to be killed, and the least likely to survive. Properties which might benefit group welfare, therefore, would seem to be selected against, whenever the interest of the individual conflicts with the interest of the group. As most contemporary Darwinists would argue, selection takes place at the level of the individual, making it extremely improbable for behaviors to develop which are beneficial to the group, but detrimental to the individual. Contemporary Darwinists have strengthened the rule, by showing how altruism could develop, as benefiting the group can be a successful survival strategy for the individual.[29] Group selection theory, however, argues that it is possible that at times attributes will be selected which

damage the individual's fitness, but increase the fitness of the group. Although largely discredited today, Darwin made a case that this indeed is what takes place:

> It must not be forgotten that although a high standard of morality gives but a slight or no advantage to each individual man and his children over the other men of the same tribe, yet that an increase in the number of well-endowed men and advancement in the standard of morality will certainly give an immense advantage to one tribe over another. There can be no doubt that a tribe including many members who, from possessing in a high degree the spirit of patriotism, fidelity, obedience, courage, and sympathy, were always ready to give aid to each other and to sacrifice themselves for the common good, would be victorious over most other tribes; and this would be natural selection. At all times throughout the world tribes have supplanted other tribes; and as morality is one element in their success, the standard of morality and the number of well-endowed men will thus everywhere tend to rise and increase.[30]

Darwin never articulated how large a role such group selection, as opposed to individual selection, could play. Darwin's choice of explaining natural morality through group selection is from today's evolutionary perspective problematic; individual selection has primarily been the source for evolutionary explanations of morality in second-generation Darwinism However, while group selection allows for behaviors which can benefit the group while being detrimental to the individual, contemporary theories of individual selection strongly support the idea that behaviors which benefit the group can often benefit the individual, as well, and thus there is often no contradiction between the two.

Darwin also understood that altruism could be beneficial to the individual, and could therefore be explained at the level of the individual. Darwin believed that reason would allow individuals to understand that if one aided a fellow creature, s/he would be more likely to aid in return, what in contemporary Darwinism became known as reciprocal altruism.[31] Individual creatures could then learn that cooperation was to their benefit. Although their social instincts enabled the rudimentary motivation to aid another, probably through sympathy, reason reinforced the instinct and elaborated upon it.

The combination of social instinct and reason was not limited to human beings. Darwin's *Descent of Man* was not only about the descent of humans into the natural world and humans being continuous with the