

Nature and business ethics

WILLIAM C. FREDERICK

Naturalist business ethics describes the natural forces, processes, and scientific laws that influence human conceptions of morality and ethics, and their operationalization in the business firm. The naturalist approach goes beyond descriptive explanations of nature-influenced business behavior to hypothesize normative implications of work-related behaviors of business managers, employees, and corporate stakeholders.

To some extent, a nature-based concept of ethical–unethical workplace behavior competes with alternative explanations given by social, behavioral, and organizational scientists, and by philosophers. The former emphasize social, psychological, cultural, and organizational forces as the main determinants of normative behavior, with explanations couched in empirical terms, while philosophers work to identify normative principles, rules, and concepts distilled from the long traditions of philosophical thought, with explanations defended through abstract logical reasoning. However, neither of these two scholarly approaches is immune from the influence of the other's preferred methods. The same cannot be said regarding naturalist business ethics whose emphasis on nature as a prime explanatory variable is often at odds with sociocultural theory and with philosophy's abstract logic; and these differences will be revisited at a later point in the discussion. For now, it will be helpful to explain the spillover into the business arena of a naturalist ethics approach that has had a long history in other areas of scholarly inquiry.

The evolutionary background

Naturalist business ethics is a spin-off from Charles Darwin's theory of evolution through natural selection and the neo-Darwinian emphasis on genes as an agent of evolutionary change. The last half of the twentieth century has been especially fruitful in many branches of natural science but none more so than research into genetics, along with the prospect of producing genetic effects beneficial to humans either directly (as in health and medicine) or indirectly (as in genetically engineered plant and animal forms). The Human Genome Project whose goal is to provide a map of the entire human genome, holds great promise as well as considerable threat to current conceptions of human nature. Cloned animals raise the prospect of cloned humans, thereby alarming the general public and posing potential ethical and moral issues for business firms whose genetic research and commercial incentives are heavily implicated.

Before Darwin, though, Western philosophy from the time of Aristotle and earlier has sought to understand the relationship of nature and ethics, an effort that has clearly continued into the twentieth century, as such notable philosophers as William James, John Dewey, Karl Popper, W. V. O. Quine, and others have grappled with the normative implications of human evolution. Economists too, from Adam Smith to Thomas Malthus and David Ricardo, and on to the English utilitarians and contemporary ecological economists, have assigned a central role to nature. Eastern philosophies are well known for the diverse pictures of nature woven into human meaning, human behavior, and human fate generally. While nature has long been a factor in moral conceptions of humans and human activity, the current emphasis placed on nature in theories of business ethics is due almost entirely to neo-Darwinian hypotheses and the biological explanations spawned by them.

Genes: Selfish? Altruistic? Or both?

A central premise of neo-Darwinian thought is that the physical and behavioral traits of all organisms are a function of the organism's genome, which is its entire set of genes. Metaphorically, it is said that genes send directives or instructions to the physical organism that houses them, which is called a phenotype, thus producing the distinctive characteristics and behavioral patterns of plants, animals, bacteria, fungi, etc. However, as Darwin had earlier proposed, an organism's environment is constantly intruding on it, sometimes supportively and at other times in threatening ways. Thus, the mechanism of evolutionary change – the factor that accounts for modifications, in the forms and functions of plants and animals over time – is the interactions between organism and environment. Darwin labeled these interactions "natural selection," meaning that the pressures of an organism's environment have the effect of "selecting" those physical and behavioral traits that sustain the organism's life and enable it to reproduce and, by default, "rejecting" all features with negative effects on life and reproductive ability. (Modern genetic theory was, of course, unknown to Darwin, and there is no evidence that he was familiar with or made any use of Gregor Mendel's pioneering work on genetics.)

Darwin's twentieth-century successors, who are known as neo-Darwinians, have extended his evolution-by-natural-selection idea by incorporating genetic theory into it and arguing that genes are "selfish" (Dawkins, 1976). By "selfish genes," neo-Darwinians mean that the directives and instructions sent by genes promote the genes' own survival and reproduction; otherwise the genes and their host phenotypes would be eliminated by natural selection pressures. This picture shifted attention from the whole organism, which feels the direct effects of environmental pressures, to the organism's genes which determine the organism's ability to "fit" into its environment. So, in this view, "fitness" is a direct outcome of genetic function. It implies that no organic trait will survive unless it contributes to the genes' survival and reproduction.

It was soon realized that this neo-Darwinian canon contained the seeds of its own destruction when biological and ethological research revealed a wide range of helping behaviors that involve one organism risking or sacrificing its own survival and reproduction on behalf of others. A prime example is infertile worker and soldier members of ant, bee, wasp, and termite colonies who serve the survival and reproductive interests

of the colony's queen and their own brothers and sisters, rather than reproducing their own genes and transmitting them to future generations. By sacrificing their own genes' future, they appear to act not selfishly but selflessly; see Wilson (1975) for other examples.

Clearly, this finding posed a grave threat to one of the central tenets of Darwinian theory, because how might one explain the survival of such an unselfish behavioral trait that otherwise would be expected to have been eliminated by natural selection? "Fitness" seemed to be turned on its head in these cases. Darwin himself spoke of the sterile insect castes as "one special difficulty, which at first appeared to me insuperable, and actually fatal to my whole theory" (quoted by Wilson, 1975, p. 117).

The answer came in two major forms, but both were different versions of what biologists call "altruism." One of these is "kin selection," the other "reciprocal altruism." It is important to note that biological altruism is not the same as the more generous and subtle philosophical concept of altruism, although arguably the former can be seen as a more austere rendition of the latter. To biologists, altruism means that an organism sacrifices its own chance to extend its genes into the future by helping another organism to do so. The altruist here is acting under the control of its genes, and its altruistic behavior is, in that sense, unconscious and nondeliberative. Philosophers, on the other hand, mean by altruism that a conscious, intentionally motivated act of benevolence toward others has occurred, one that is not limited to a single purpose such as reproductive success but may extend to a large range of human goals, purposes, and motives (Blum, 1997).

Neo-Darwinians met this crisis by arguing that those insect altruists – the sterile workers and soldiers – are, after all and in spite of appearances to the contrary, acting selfishly in the biological sense of extending their genetic heritage to future generations. They do so vicariously or by proxy through the genetic calculus of gene transmission from parent to offspring. (In the present account, the mathematics of the proof are left aside, for lack of space.) By feeding the queen and protecting their brothers, sisters, and cousins, who carry at least partial sets of identical genes (in varying proportions, depending on degree of kinship), the sterile workers and soldiers are, in a sense, working on behalf of the greater genetic future of the entire hive or colony, including themselves. Copies of genes like theirs are passed along after all, and that is what is required by Darwinian natural selection theory. They are selfish altruists; the closer the kin, the more altruistic they will be. They needn't consciously know or compute the degree of relationship; their genes impel them to act as if they know. The practice is called "kin selection" and produces "inclusive fitness," meaning that natural selection favors individual organisms that act not only in their own interest but, in doing so, also produce fitness benefits for their kin. (However, inclusive fitness should not be confused with group selection. Whether natural selection acts on groups or individuals has generated an intense, continuing debate among evolutionary theorists, with the majority favoring selection at the level of individual organisms.)

A broader, and more morally profound, kind of behavior is "reciprocal altruism" – broader because altruistic acts go beyond kith and kin to include non-kin strangers, and more profound because it implies that this kind of altruism is favored by natural selection and will win out over strictly selfish attitudes and motives. The idea is the brainchild of biologist Robert Trivers (1971) but now vastly elaborated by an entire

generation of game theorists, Prisoner's Dilemma enthusiasts, and sociobiologists. (Through one of those fortuitous linkages of disparate but related inquiry, game theory became a vehicle tying together biologists, economists, mathematicians, and evolutionary theorists in an effort to explain the logic of altruistic thinking and cooperative behavior between self-interested parties. The favorite analytic device was the Prisoner's Dilemma which revealed that a strategy of reciprocal behavior called "tit-for-tat" would emerge and tend to dominate within a given population. The main proponents of this approach were geneticist Maynard Smith, biologists William Hamilton and Robert Trivers, and political scientist Robert Axelrod. For the story and references, see Ridley (1997, pp. 53–66).)

Reciprocal altruism is evident in thinking organisms – this includes at least the higher primates as well as humans. These organisms help others with an expectation of return favors, even if helping puts one in danger or imposes costs. Those who do not return favors are soon found out and may suffer a variety of punishments. A moral code of helpful, supportive behavior evolves, building social bonds that strengthen the group. Natural selection favors this kind of group cooperative behavior over fractious, spiteful, vengeful attitudes. Here, then, is a biological impulse to extend kinship caring and morality into the larger society where even genetic strangers may learn that it pays to treat one's fellows altruistically. Even so, the impetus remains a self-interested one, which accords with Darwinian doctrine.

Sociobiologists argue that kin selection and reciprocal altruism apply not just to insect societies but to the human realm as well. Caring and concern for family members is stronger than for strangers, as reflected in the kinship systems of many different peoples. However, reciprocal altruism, along with the trust implicit in it, is the glue that binds larger social groups into a moral community.

The hunter-gatherer mind and before

The Darwinian preliminaries leading up to naturalist business ethics include two other gripping, even dramatic perspectives on the evolution of morality.

Primatologist Frans de Waal's (1996) observational research on bonobos, a smaller and perhaps more intelligent version of the chimpanzee, reveals that these close evolutionary cousins of ours behave in ways strikingly parallel to what we humans recognize as morality. They seem to favor close relatives over strangers from other groups – which would be kin selection at work – and they engage in several kinds of helpful, cooperative behaviors, such as grooming, food sharing, and protecting the young, where reciprocation is expected and non-reciprocation is punished – an instance of reciprocal altruism.

Other scientists and scientific observers reinforce de Waal's contention, Lyell Watson (1995) maintaining that "evil," especially in violent and aggressive forms, is a normal part of animal biology but can be offset by the altruistic actions induced by kin selection and, in a limited number of species, by reciprocal altruism. Another group (Wrangham et al., 1994) has explored the question of whether chimpanzees have minds capable of reason, language, and culture, cautiously concluding that social learning within chimpanzee groups leads to behavior that resembles but does not duplicate human moral actions.

Hence, long before humans emerged as a recognizable species, their closest animal kin displayed a moral potential, a kind of proto-morality based on the neo-Darwinian traits of kin selection and reciprocating altruistic acts. As author Robert Wright (1994, p. 201) says in *The Moral Animal*. "These and other elements of altruism were part of the ape mind, ready to be wired together in a new way."

But how do we get from ape morality to human morality? Wright helps to answer this question by pointing out that present-day human psychology is Pleistocene psychology. The "ancestral environment" in which the human psyche was formed, with all of its built-in impulses and urges, was that of the Ice Age hunter-gatherer peoples. They lived in small groups or clans consisting of close relatives, the very conditions necessary for both kin selection and reciprocal altruism to emerge, and that is a reassuring thought. But since genetic change which occurs very slowly, and randomly, over long time periods has produced no discernibly new neurological traits or capabilities since those ancient times, it follows that we confront today's remarkably different environment and the moral problems it generates with a 50,000-year-old Pleistocene brain. As Wright (1994, p. 38) says, "[T]he ancestral environment . . . wasn't much like the environment we're in now. We aren't designed to stand on crowded subway platforms, or to live in suburbs next door to people we never talk to, or to get hired or fired, or to watch the evening news."

The resultant disjunctions are stark, if not staggering, in their normative implications:

- Old brain/new environment
- Ice Age mentality/Electronic Age challenges
- A Pleistocene psyche honed to promote self-interest and limited altruism, paired with complex modern institutions that promote their own goals, some group-oriented, others individualistic and self-centered
- A Stone Age business mind seeking profits through a narrow cost-benefit lens, contrasted with the diverse and insistent claims of multiple corporate stakeholders; in other words, Darwinian self-interest pitted against neo-Darwinian reciprocal altruism

What hope then for morality in an Electronic Age? The answer came from some unexpected quarters, from scholars who detected a core of "moral sentiments" embedded in that ancient brain.

Nature's moral sentiments

Economic philosopher Robert Frank (1988) in *Passions within Reason* accepts the classic neo-Darwinian idea that people are genetically programmed to act in self-interested ways, but he believes that this behavioral impulse is only part of the story, and probably the least important part for anyone wanting to know why people, in spite of that self-regarding impulse, act altruistically.

According to Frank, Darwinians have omitted or overlooked the way emotions shape human attitudes, inclinations, and decisions. Rational, self-prudential considerations are always, and necessarily, moderated by an emotional concern for others and especially for what others will think of them. Frank argues that most people can't help but

act altruistically because their emotions impel them toward behaviors that are simultaneously self-prudential and other-regarding. Human memories are long (thanks to that Pleistocene brain); people remember both good deeds and bad ones. They will have a fond regard for those who can be trusted to act benevolently toward others but a very guarded attitude about the less trustworthy or the malevolent.

These attitudes, and the behavior they induce, lead to the emergence of a range of biologically based moral sentiments:

- *Sympathy* toward others
- A sense of *fairness* in social transactions
- *Trust* in dealing with others
- *Love* in close personal relationships
- *Decency* as a widespread trait in most societies

Where these moral sentiments come into play, people are responding to their emotional feelings (the “passions” of the book’s title) rather than to their cognitive perceptions alone (the “reason” of the title). These moral impulses toward altruism outperform purely self-centered traits and will become dominant throughout any given human population, driving out the selfish – well, not completely, but largely so – and favoring the altruist. The emotional component of decision making then has survival value and will be favored by natural selection.

An even more remarkable theoretical initiative was launched by political scientist-sociologist James Q. Wilson (1993) in *The Moral Sense*. It is remarkable because, like Frank, this *social* scientist traces altruism’s rise and persistence to innate human qualities selected for in evolution. These qualities assume the form of moral sentiments – sympathy, fairness, self-control, and duty – each one taking the selfish edge off human interactions. He argues, as any good Darwinian would, that these moral sentiments would not have survived had they not contributed positively to the needs of human populations.

They are an outgrowth of the even more basic trait that Wilson calls a “moral sense.” People are naturally, innately affiliative creatures, inclined to sociability. This leads them to develop a *sympathetic* outlook, to seek *fairness* for themselves and others, to be willing to curb selfish inclinations by exerting *self-control* within social groups, and to accept the *duties* and responsibilities toward one’s fellows that are expected in social exchanges and transactions.

The human moral sense that underlies and supports these sentiments or behavioral predispositions originated within familial, kinship relations, specifically from the nurture and protection of the newborn and immature offspring by parents plus similar supportive sympathies extended to and reciprocated by other close kin. Proto-altruism here is clearly perceived to derive from the survival necessities of the nuclear family and its network of extended kin. “At some stage in the evolution of mankind – probably a quite early one – [this kind of kin-based] cooperative behavior became adaptive. . . . And so by natural selection and sexual selection, individuals with prosocial impulses had greater reproductive success” (Wilson, 1993, p. 70).

By emphasizing that moral sentiments activate and sustain human altruism, both Frank and Wilson have continued a long-established Enlightenment effort to explain

moral behavior in naturalist, or natural law, terms. The eighteenth century's David Hume and Adam Smith made nature-based moral sentiments a central part of their philosophies of human action (Ruse, 1986, pp. 182–4; 266–9), with Smith then proposing an economic mechanism (the market) to link self-regarding impulses with societal well-being. Nature, in attenuated form, though not specifically conceived as moral sentiments, continued to be given a strategically important role in accounting for economic and societal well-being (or ill-being) in the works of nineteenth-century political economists such as Thomas Malthus, Karl Marx, Jeremy Bentham, John Stuart Mill, and others.

Clearly, these older inquiring traditions along with their modern counterparts that rely on natural forces to explain human altruism pose a central challenge to today's student of business ethics. Is nature relevant on the job? In the office? In the factory? In a work group? In Internet commerce?

Nature in the workplace

It is odd that Darwin/neo-Darwin altruistic explanations are found so seldom in theories of business ethics, all the more so since other-regarding behavior is so frequently invoked by business ethicists as a workplace ideal. The general discipline of philosophy, from whose ranks many ethicists are regularly recruited, long ago either came to terms with naturalism – Quine (1992, 1995); Hahn and Schlipp (1986) being a good example – or accepted them provisionally as less than the whole story (O'Hear, 1997). None of the widely used anthologies or standard business ethics textbooks refer students to Darwinian sources, although there is little hesitancy in invoking Social Darwinism as an orientation to be avoided.

The explanations for this scientific void are not far away. Business ethicists are not educated in science, nor do they read science with any grasp of its philosophical significance. Within those business schools where ethics has secured a curricular foothold, the subject is normally taught by faculty with social science backgrounds, i.e., economics, political science, sociology, and/or psychology, or those with derivative social science credentials such as organization behavior and business environment, or the occasional legal scholar and philosopher. The dread fear of crossing disciplinary lines and chancing the clarity of one's academic qualifications holds many back from looking into the natural sciences, and little wonder since careers are at stake. Of larger, though less immediately threatening, personal import is the strong culturological bias of twentieth-century social science. Here the *tabula rasa* orientation reigns supreme, where culture not only writes the message of human learning in bold strokes, but supports a belief in almost infinite flexibility and diversity in human affairs, and posits freedom and individuality as potentialities within the grasp of each and every person (Degler, 1991). For their part, philosophers have brought along their own self-imposed disciplinary albatross as they moved out of philosophy into business ethics. They balk when confronted with evolutionary theory that seems to them to derive normative meanings from evolutionary observations, i.e., finding "oughts" where there are only "is-es" – the dreaded "naturalistic fallacy," which is closely related to, if not identical with, the (equally dubious) "fact-value" distinction. However, it might be noted that one philosopher, well versed in Darwinian thought has questioned the validity and

reach of the Hume–Moore “naturalistic fallacy” doctrine (Ruse, 1985, pp. 200–201; 1986, pp. 86–90; 256–8). Nor are philosophers helped in grasping nature’s normative significance by the disciplinary habit of avoiding empirical studies in favor of abstract speculative thought.

The rather peculiar result is that an entire body of theory, research, and empirical data in the natural sciences, much of it rich in potential relevance to questions of workplace ethics, dangles and twists in an intellectual void as if it is not there, virtually ignored by the great majority of business ethicists. Only the occasional macro-economist (Boulding, 1978) or institutional economist (Hodgson, 1993, 1995) has grappled with the normative complexities of Darwinian thought, but none has focused specifically on the ethical dimension of managerial behavior within the modern corporation.

Two business school ethicists who have ventured directly into the naturalist realm are William C. Frederick (1995) and Timothy L. Fort (1997a, 1997b, 1997d). Frederick’s academic credentials are in institutional economics and anthropology, while Fort’s degrees are in theology, law, and government. Neither background hints of an orientation toward Darwinian thought. In fact, their uses and interpretations of naturalist forces are less reliant on neo-Darwinian theories of altruism than one might expect.

Frederick has laid out a comprehensive theory of the origin and operation of business values which he believes to be the outcome of thermodynamic energy flows. The modern corporation is driven by two primary nature-based value clusters: self-centered *economizing values* and self-promoting *power-aggrandizing values*. In business operations, these values intersect and clash with a third value cluster, community-building *ecologizing values*. The resultant tensions among these natural forces create the normative problems that arise in the workplace, including on-the-job fairness, justice, and rights.

In addition to the physics of thermodynamics, Frederick summons research findings from *ethology* to explain the aggressive-dominance behavior of business executives, from *ecology* to explain ecosystem dynamics and communal behavior, from *genetics* to explain human symbolic attributes and cooperative organizational behavior, and from *cognitive development theory* to explain on-the-job personal values. Thus, his natural science platform is considerably broader than the altruistic focus of the neo-Darwinians who, it will be recalled, stumbled almost by accident and certainly by necessity on the issue of other-regarding behavior by supposedly self-regarding organisms.

Moreover, Frederick draws extensively on cultural and sociological explanations of both individual and organizational behavior found in the business workplace, thereby avoiding the highly controversial sociobiological constraints on individual flexibility and societal pluralism. Because of the central role assigned to thermodynamics – as the originator and operator of the core values of the business order – this view of business values could well be called “sociophysical” as contrasted with a sociobiological approach, a label Frederick explicitly rejects (Frederick, 1995, p. x).

Frederick also proposes a synthesis of nature-based normative behavior, socio-cultural norms, and the philosophic concepts of rights, justice, and fairness found so frequently in business ethics literature. He appears to believe that these three intellectual traditions might be conjoined to form a more effective way to understand corporate operations and to promote greater ethicality in the business workplace.

Timothy Fort's naturalist bent is at once original as well as emergent from a trend among some of today's theologians to incorporate scientific findings into theology, especially Darwinian evolution, neo-Darwinian genetics, and astrophysical cosmology (Harris, 1987, 1991, 1992; Kaufman, 1993). Fort grounds his naturalist ethics in an idea developed by James Q. Wilson (1993) that individuals learn what it is to be moral in small groups, beginning with an infant's early experiences within the family. For Wilson, it will be recalled, such a familial practice proved to be evolutionarily adaptive. However, Fort takes the approach even further by citing three telling bits of scientific research: primatologist Frans de Waal's (1996) observations about the reciprocating affectionate, caring behavior within bonobo kin groups; psychologist Robin Dunbar's (1996) finding of a correlation between size of the neocortex (where conscious thought occurs) and both the degree of reciprocal supportive behavior among chimpanzees and the expected size of such groups; and Robert Wright's (1994) contention that the modern mind is a mirror of the more ancient hunter-gatherer brain. Bonobos' proto-moral inclinations suggest the presence of an innate precursor to the more fully developed human notion of morality, while Dunbar's hypothesis linking size of social group to reciprocating supportive behavior interfaces well with Wright's propositions about hunter-gatherer mentality and the typical size of such early societies.

Fort argues that individuals necessarily learn moral behavior within the family, extended kinship groups, and close-knit clans, where group size and moral comprehension are constrained by the neocortex-group size correlation. It is there that people acquire their social and moral identity. Therefore, if morality is to find meaningful expression in the modern business firm, there must be organizational structures compatible with the size and familiarity of one's early moral experiences. These structures he calls "mediating institutions" because they provide a link between a person's moral identity and the work they perform for the firm. Examples would be small work teams who "own" their piece of a firm's assembly process, or empowering employees with new responsibilities, or apportioning work in relation to available decentralized information, and similar organic work schemes based on close contacts among co-workers. Business thus incurs a moral responsibility to organize itself in the spirit and methodology of a mediating institution, to make ethical behavior an achievable reality on the shop floor and in the executive suite (Fort, 1997e, 1998).

Fort takes a strong stand regarding nature's role, saying that "moral reasoning and culture are manifestations of nature itself [and that] the capability for moral reasoning, caring for others, being aware of one's impact on others is indeed hard-wired in the human species." The emotional component or "affect . . . may be the link – an evolutionary adaptation – necessary for us to translate our need for mutual support into moral reasoning" (Fort, 1997c). Nature then is seen as a "transcendent reality" of eschatological proportions, which imposes moral responsibilities on individuals and business firms alike because all are subject to its reach.

A fair summation of the views of these two business ethicists reveals both convergence and distinctiveness in how nature is related to everyday business activities. Fort's naturalist theology leads him to discover universal transcendent meaning in both nature and religion, with the two linked yet distinct, but each providing grounds for normative analysis of business operations, decisions, and policies (Fort, 1997b).

Frederick's sociophysics approach, though grounded in neurological cognitive processes and experiential problem solving in an entropic universe, also acknowledges that individuals, including business practitioners, seek a transcendent, cosmic meaning for their lives (Frederick, 1998a). Moreover, he uses complexity theory to argue that business and community relationships evolve along largely unpredictable pathways set by self-organizing biological impulses (Frederick, 1998b).

The rest of the story and more

Much more, both pro and con, could be said about the prospects for an ethics grounded in nature. Ecologists, particularly those who focus on the ecologically negative practices of business, industry, and high-consumption societies, have in a sense been pioneers and advocates of using the natural sciences, especially biology, to take normative positions regarding business operations. Their story is told elsewhere in this volume and in many others too numerous to cite here; however, see *Academy of Management Review* (1995) for several examples.

Another business school ethicist, Diane Swanson (1992, 1995), builds an entire model of corporate social performance on naturalistic values and argues that only a systems analysis that incorporates both biological and cultural factors can provide normative clarity. Her work, inspired in part by Gregory Bateson, is a clear step beyond current treatments of ecological sustainability by organizational theorists; see for example Egri and Pinfield (1996). Other recent uses of natural science are Bella (1997) and Brockett and Tankersley (1997).

These scholarly affirmations of Darwinian natural science are by no means the whole story, and perhaps the recent statement by philosopher Anthony O'Hear (1997), *Beyond Evolution: Human Nature and the Limits of Evolutionary Explanation* can symbolize the unease with which Darwinians and Darwinian analysis are still regarded. O'Hear's impressive, if not entirely persuasive position, is that human self-consciousness is the unique component that separates humans from the remainder of nature, making possible a reasoning power and rationality that seems to stand above and beyond science's search for empirical explanations. This mental capability drives a desire to discover the true, the good, and the beautiful which are depicted as qualities not easily sensed by limiting oneself to the scientist's objective world. Truth here emerges as having a dimension that causes it to stand above mere empirical truth, and it is sought for its own sake rather than for instrumental purposes alone. Morality then is not an outcome of organismic striving for survival, as the Darwinians would have it. "[T]he very essence of morality is its unconditional nature and its non-relativity to circumstance" (O'Hear, 1997, p. 141). In what he calls "a quasi-Darwinian approach to tradition, custom, and morality," O'Hear believes that sociocultural rules and conventions, not biology or scientific rationality, provide normative direction to human affairs and can explain the survival and evolutionary success of human societies (1997, pp. 145-6). Well-read in Darwinian theory, O'Hear provides clear evidence that doubts remain in some quarters about the viability of relying exclusively on post-Darwinian accounts of morality's emergence and meaning. Whether this skepticism is more than the last gasp of a moribund anti-Darwinist philosophy remains an open question.

References

- Academy of Management Review* 1995: Special topic forum on ecologically sustainable organizations, 20(4), 873–1089.
- Bella, D. A. 1997: Organized complexity in human affairs. *Journal of Business Ethics*, 16, 977–99.
- Blum, L. A. 1997: Altruism and benevolence. In P. H. Werhane and R. E. Freeman (eds), *The Blackwell Encyclopedic Dictionary of Business Ethics*. Oxford: Blackwell.
- Boulding, K. 1978: *Ecodynamics*. Beverly Hills, CA: Sage.
- Brockett, P. L. and Tankersley, E. S. 1997: The genetics of revolution, economics, ethics, and insurance. *Journal of Business Ethics*, 16, 1661–76.
- Dawkins, R. 1976: *The Selfish Gene*. Oxford: Oxford University Press.
- Degler, C. N. 1991: *In Search of Human Nature: The Decline and Revival of Darwinism in American Social Thought*. Oxford: Oxford University Press.
- de Waal, F. 1996: *Good Natured: The Origins of Right and Wrong in Humans and Other Animals*. Cambridge, MA: Harvard University Press.
- Dunbar, R. I. M. 1996: *Grooming, Gossip, and the Evolution of Language*. London: Faber & Faber.
- Egri, C. and Pinfield, L. T. 1996: Organizations and the biosphere: Ecologies and environments. In S. R. Clegg, C. Hardy, and W. R. Nord (eds), *Handbook of Organization Studies*, Thousand Oaks, CA and London: Sage Publications, 459–83.
- Fort, T. L. 1997a: Naturalism and business ethics: Inevitable foes or potential allies? *Business Ethics Quarterly*, 7(3), 145–55.
- Fort, T. L. 1997b: *Business and naturalism: A peek at transcendence?* Conference on Value Inquiry, Appalachian State University, Boone, NC, April 17–19.
- Fort, T. L. 1997c: Personal communication to author, August 30.
- Fort, T. L. 1997d: How relationality shapes business and its ethics. *Journal of Business Ethics*, 16, 1381–91.
- Fort, T. L. 1997e: The corporation as a mediating institution. *Notre Dame Law Review*, 73, 101–32.
- Fort, T. L. 1998: Goldilocks and business ethics: A paradigm that fits “just right.” *Journal of Corporation Law*, Winter Issue, 245–76.
- Frank, R. H. 1988: *Passions within Reason: The Strategic Role of the Emotions*. New York: Norton.
- Frederick, W. C. 1995: *Values, Nature, and Culture in the American Corporation*. Oxford: Oxford University Press.
- Frederick, W. C. 1998a: Moving to CSR4: What to pack for the trip. *Business & Society*, 37(1)(March), 40–59.
- Frederick, W. C. 1998b: Creatures, corporations, communities, chaos, complexity: A naturological view of the corporate social role. *Business & Society*, 37(4)(December), 358–89.
- Hahn, L. E. and Schlipp, P. A. (eds) 1986: *The Philosophy of W. V. Quine*. LaSalle, IL: Open Court.
- Harris, E. 1987: *Formal, Transcendental, and Dialectical Thinking*. Albany: State University of New York Press.
- Harris, E. 1991: *Cosmos and Anthropos*. Atlantic Highlands, NJ: Humanities Press.
- Harris, E. 1992: *Cosmos and Theos*. Atlantic Highlands, NJ: Humanities Press.
- Hodgson, G. M. 1993: *Economics and Evolution*. Cambridge, UK: Polity Press.
- Hodgson, G. M. (ed.) 1995: *Economics and Biology*. UK: Elgar.
- Kaufman, G. D. 1993: *In Face of Mystery: A Constructive Theology*. Cambridge, MA: Harvard University Press.
- O’Hear, A. 1997: *Beyond Evolution: Human Nature and the Limits of Evolutionary Explanation*. Oxford: Clarendon Press.
- Quine, W. V. O. 1992: *Pursuit of Truth*. Cambridge, MA: Harvard University Press.

- Quine, W. V. O. 1995: *From Stimulus to Science*. Cambridge, MA: Harvard University Press.
- Ridley, M. 1997: *The Origins of Virtue*. London: Penguin Books. First published by Viking in 1996.
- Ruse, M. 1985: *Sociobiology: Sense or Nonsense?* 2nd edn. Dordrecht: R. Reidel. First published in 1979.
- Ruse, M. 1986: *Taking Darwin Seriously: A Naturalistic Approach to Philosophy*. Oxford: Basil Blackwell.
- Swanson, D. L. 1992: A critical evaluation of Etzioni's socioeconomic theory: Implications for the field of business ethics. *Journal of Business Ethics*, 11, 545–53.
- Swanson, D. L. 1995: Addressing a theoretical problem by reorienting the corporate social performance model. *Academy of Management Review*, 20(1), 43–64.
- Trivers, R. 1971: The evolution of reciprocal altruism. *Quarterly Review of Biology*, 46, 35–57.
- Watson, L. 1995: *Dark Nature: A Natural History of Evil*. London: Hodder & Stoughton.
- Wilson, E. O. 1975: *Sociobiology: The New Synthesis*. Cambridge, MA: Belknap Press, Harvard University Press.
- Wilson, J. Q. 1993: *The Moral Sense*. New York: Free Press.
- Wrangham, R., McGrew, W.C., de Waal, F. B. M., and Heltne, P. G. (eds) 1994: *Chimpanzee Cultures*. Cambridge, MA: Harvard University Press.
- Wright, R. 1994: *The Moral Animal: The New Science of Evolutionary Psychology*. New York: Pantheon.