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Evolutionary Processes, Moral Luck, and the Ethical Responsibilities of the Manager

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ABSTRACT. The responsibilities of the manager have been examined through several lenses in the business ethics literature: Kantian (Bowie, 1999), contractarian (Donaldson and Dunfee, 1999), consequentialist (Friedman, 1970), and virtue ethics (Solomon,1992), to name just four. This paper explores what the ethical responsibilities of the manager would look like if viewed through an evolutionary lens. Discussion is focused on the impact of evolutionary thinking on the process of moral reasoning, rather than on the sources or the substance of morality. The conclusion is reached that the evolutionary lens supports the view that moral luck plays an important role in how we assign ethical responsibilities.

KEY WORDS: business ethics, theoretical foundation, evolution, moral luck, ethical responsibility

The impact of Darwin's theory of evolution has been felt across all disciplines. Dennett (1995) likens evolutionary theory to a ''universal acid'' that continuously corrodes the pillars of our hitherto held beliefs and values – ''it eats through just about every traditional concept, and leaves in its wake a revolutionized world-view, with most of the landmarks still recognizable, but transformed in fundamental ways'' (p. 63). In philosophy, it has raised important questions, such as – Where do our morals come from (Wilson, 1998)? Can our morals be as compelling under an evolutionary perspective as they would be under alternative world-views (Dennett, 1995; Rorty, 1995)? This paper explores a more micro-level phenomenon: the impact of the evolutionary forces that are present in organizational life on our notions of individual moral responsibility.

Evolutionary theory is, of course, no newcomer to research about the management of organizations. Several rich literatures draw on evolutionary theory in an effort to better understand organizational and management processes, including work in organizational theory (Aldrich and Ruef, 2006; Hannan and Freeman, 1977), evolutionary economics (Hodgson, 2002; Nelson and Winter, 1982) and strategic management (Burgelman, 1983; Teece and Pisano, 1994). Yet, much of the work in these literatures has little to say about how fundamental evolutionary processes might also be used to enlighten our view of individual moral responsibility as it pertains to work in organizations. In particular, evolutionary theory – which provides a broad framework for understanding the incessant and often unpredictable evolution of socio-economic systems – draws our attention to the fact that individual managers go about their daily business amid systems that are largely beyond their control (Hayek, 1960). Such a view is consistent with the notion that something important is missing from much of modern moral theory – the role of moral luck in our conceptions of individual responsibility (Michaelson, 2008; Nagel, 1979; Williams, 1979). For it is the basic argument of moral luck theorists that we do treat individuals as objects of moral judgment even when a significant aspect of what they do depends on factors beyond their control – which indicates that moral luck leaks into our evaluations.

In what follows, we draw on a variety of established evolutionary thinking in order to show how an evolutionary view of organizational management leads to a stronger appreciation of the arguments of moral luck theorists regarding the responsibilities of the manager. On the one hand, this builds an incrementalist element on to evolutionary thinking in organizational management; on the other hand, it shows how the concept of moral luck in business is stronger when placed on a firm theoretical foundation. We proceed as follows.

The section "Evolutionary thinking in economics and management" briefly reviews the use of evolutionary models in management, and some of their distinctive features *vis-à-vis* similar models in the natural sciences. The section "The usefulness of evolutionary thinking for business ethics" discusses why an evolutionary perspective could provide useful insights into the study of business ethics. The section "Inertial forces at the individual, organizational, and institutional levels" explores inertial forces at the individual, organizational, and institutional levels, respectively. The section "Multi-level and multi-stage selection" analyzes the impact on the manager of selection processes operating simultaneously at different levels. The section "An evolutionary grounding for moral luck: implications for evaluating individual responsibility" discusses implications of the evolutionary perspective for our concept of individual responsibility by highlighting how an evolutionary viewpoint supports arguments by moral luck theorists. The section "Conclusion" offers some concluding thoughts.

Evolutionary thinking in economics and management

In this section, we attempt to achieve two objectives. First, we trace the use of evolutionary thinking in economics and organizations research. In particular, we underscore the fact that our attempt to apply the evolutionary lens to business ethics is situated within a long tradition of scholarship that has used evolutionary thinking to illuminate economic and organizational phenomena. Second, we outline the distinctive features of evolutionary thinking as it has been applied in the social sciences *vis-à-vis* the natural sciences.

Evolutionary thinking has a long history in the social sciences, and particularly in economic thought (Stoelhorst, 2008). Indeed, it has been argued that Malthus (Maynard Smith, 1993; Schweber, 1977, 1980), Smith (Schweber, 1977, 1980) and the prevailing economic structure in Britain (Maynard Smith, 1993), influenced Darwin's thinking in important ways. Maynard Smith (1993) explains that:

> Darwin was consciously influenced by the ideas expressed by Malthus in his *Essay on Population*. Malthus was concerned to justify the existence of poverty among a considerable section of the population; he argued that the human population is capable of increasing indefinitely in a geometric progression, and must therefore be held in check by the limited quantity of food available, and so by starvation. The argument is in part fallacious, since there is no evidence that the main factor limiting the human population is the shortage of food. However, the observation that animal and plant species, including the human species, are capable of indefinite increase in numbers in optimal conditions, is correct, and plays an important part in the theory of natural selection. Darwin must also have been influenced by the fact that he lived in the era of competitive capitalism, when some firms were improving their techniques, and increasing in size and affluence, while others were going bankrupt, and old crafts were dying out. It is unlikely that the concepts of competition and the struggle for existence in nature would have occurred to him so readily had he lived in a more static feudal society (p. 43).

Hodgson's work (1993, 2002) provides a penetrating analysis of evolutionary principles and the history of evolutionary thinking in economics, in which he examines the works of Marx and Engels, Spencer, Marshall, Menger, Veblen, Schumpeter, and Hayek. He asserts that for several decades, Spencer was as influential in biology as Darwin, and was the first to use the term "evolution." Furthermore, he argues that Marshall (1948) recognized the superior efficacy of the biological over the mechanistic metaphor in explaining economic phenomena, as is evidenced by his statement – "the Mecca of the economist lies in economic biology rather than in economic dynamics" (p. xiv). In the theories of some of the scholars discussed by Hodgson (e.g. Spencer and Veblen), explicit use is made of the biological analogy, while in those of others (e.g. Schumpeter, and Hayek), elements of evolutionary thinking can be clearly perceived.[1]

The social sciences were arguably slow to adopt evolutionary models, partly because of their unfortunate association with Social Darwinism and other such theories which were used as apologies for colonization, slavery etc. For example, in the decades following the Second World War, there was a lull in the use of evolutionary models in economics, coinciding with the rise and subsequent dominance of mechanistic equilibrium models with heavy emphasis on the use of mathematics. However, this

started to change in the 1970s with the publication of Hannan and Freeman's work on organizational ecology (1977) and Nelson and Winter's theory of economic change (1982), which re-ignited interest in the application of evolutionary models in organization studies and economics. Currently, scholars in business schools researching innovation and technology change, organizational theory, strategic management, and entrepreneurship all draw extensively on evolutionary models.

A question that is frequently raised when evolutionary models are considered in the social sciences is, How faithful must they be to the concepts and theories in evolutionary biology? (Hodgson, 2002). Hodgson (1993) remarks that:

> With particular regard to the transposition of the biological analogy, John Maynard Smith (1972, pp. 36–43) and Michael Ruse (1986, pp. 32–35) distinguish between the heuristic and justificatory roles of an analogy. An analogy-as-heuristic suggests ways of approaching the study of a phenomenon without implying the same kind of causal relationships. The stronger idea of analogy-as-justification involves a transfer of claims of truth from one domain to another. However, the distinction between these two types of analogy is not as clear in practice, as all theories involve the dogmatic adoption of hard-core assumptions, and even heuristic analogies will dispose the theorist to make untested assumptions of one kind rather than another (p. 19).

> "It is thus argued that a source of creativity in science is through the juxtaposition of two different frames of reference, so that already existing and previously separate ideas can cross-fertilize" (p. 21).

According to Campbell (1969), evolutionary theory comprises four generic processes: variation, selection, retention and diffusion, and a struggle for scarce resources. Aldrich (1999) claims that these four generic processes are necessary and sufficient to account for evolutionary change. "If processes generating variation and retention are present in a system, and that system is subject to selection processes, evolution will occur" (Aldrich, 1999, p. 21). Langton (1984) asserts that "evolutionary theory is a concatenated system of loose, but apparently true and heuristic propositions … it poses interesting questions, provides clues to their solution and, perhaps most crucially, generates testable hypotheses" (p. 352). Dawkins (1983), Dennett (1995), and Hodgson (2002) have all argued that Darwin's theory is universal precisely because it specifies the general mechanisms (an "algorithm", in Dennett's terms) that is neutral and can be applied to any evolving system (Stoelhorst, 2003). Therefore, "[E]ven if the detailed mechanisms of change at the social level are quite different from those described in biology, *socio-economic evolution is still Darwinian in several fundamental senses*" (Hodgson, 2002, p. 272; italics original). The position taken by Nelson and Winter (1982) in this respect is clearly one of not being straitjacketed by the biological analogy:

> We emphatically disavow any intention to pursue biological analogies for their own sake, or even for the sake of progress toward an abstract, higher-level evolutionary theory that would incorporate a range of existing theories. We are pleased to exploit any idea from biology that seems helpful in the understanding of economic problems, but we are equally prepared to pass over anything that seems awkward, or to modify accepted biological theories radically in the interest of getting better economic theory (witness our espousal of Lamarckianism) (p. 11).

In keeping with the analogy-as-heuristic approach, economists and management scholars have not hesitated to adopt concepts in their evolutionary models that are eschewed by many evolutionary biologists. Two such concepts are multi-level selection and Lamarckianism. Multi-level selection (Aldrich and Ruef, 2006; Durand, 2006; Henderson and Stern, 2004) refers to the view that there can be different selection processes operating simultaneously at different levels – for example, at the individual, firm, and institutional levels – each with different selection criteria. This idea is developed at greater depth later in this essay. Lamarckianism is the view that an entity can acquire characteristics through learning and pass on these learned characteristics.[2] And while biologists reject Lamarckianism, forms of learning that Lamarckianism essentially encapsulates are generally thought to be very important components of innovative behavior in organizations (March, 1991).

We briefly note that the evolutionary theories applied in the management field have been faced, since their inception, with two problems: first, defining the entity being selected (the economic equivalent of a gene) and, second, defining an

organizational generation. On the first problem, Nelson and Winter (1982) – building on the work of Cyert and March (1963) – proposed that routines be considered as the entities being selected at the organizational level. However, routines have proven rather difficult to observe empirically and somewhat less stable than theorized (Feldman and Pentland, 2003). Others have proposed teams (Hodgson and Knudsen, 2004) and individuals (Stoelhorst, 2003) or initiatives/project proposals (Burgelman, 1983) as appropriate units of selection. Within the literature, it now seems accepted that any bounded entity that interacts, for example groups, organizations, populations, and communities, is an appropriate unit of analysis (Aldrich and Ruef, 2006).

The second problem has proved more difficult to resolve. Population ecologists have used organizational birth and death rates as proxies for a generation (Barnett and Carroll, 1995). This raises the question whether the history of long surviving firms, for example the Ford Motor Company and General Motors, can be thought of as having spanned just one generation. Is Ford today not radically different from what it was under Henry Ford? Population ecologists respond that long-surviving firms are a very small minority of all the organizations that are created, and thus, at a population level, their existence does not pose a problem of great magnitude. Hannan and Freeman (1984) and Tushman and Romanelli (1985) propose the alternative that simultaneous and discontinuous changes in the four core organizational dimensions of mission, authority structure, technology, and product market be considered as the transition from one generation to the next. In general these difficulties – and the imprecise and provisional nature of the solutions proposed – have not been an obstacle for the field in building up an impressive body of literature (Denrell and Kovács, 2008).

Of course, a pragmatic approach to academic inquiry would generally support the use of different lenses for the study of complex phenomena. American pragmatists such as Rorty (1979) and Goodman (1983) have argued in favor of adopting methods from one science in the study of another. Based on their arguments, we believe that the appropriate question is not whether these lenses are scientifically "right", but instead, Does the use of the evolutionary lens contribute new insights to the study of organizations, and specifically, to business ethics?

To summarize, the application of evolutionary thinking has a long history in the social sciences, although it has been applied very differently to its use in the natural sciences. We believe that we are the first to explicitly apply the evolutionary lens to business ethics.

The usefulness of evolutionary thinking for business ethics

There is a significant literature dealing with the implications of biological evolution for human morality in general (see, for example, Dennett, 1995, MacDonald, 2001, Rorty, 1995, Wilson, 1998). This literature explores how our notions of morality would change if we accepted that there are no transcendentalist sources – either religious or secular – for our morals. We eschew discussion of both the sources of our morals and their substance, not so much because these issues are unimportant but because they have been amply addressed in other work. Instead, our focus is on the responsibilities of the manager, viewed through an evolutionary lens. Business ethics can be thought of as having two broad goals, one directed at modifying the norms and conventions under which business is transacted, the other at modifying the behavior of organizations through a modification in the behavior of individuals. The first consists in making economic agents (individuals, firms, and institutions) aware that businesses have a huge impact on how people live their lives, and that business decisions are not, and cannot be, devoid of moral content. The bio-ethicist MacDonald (2001) argues that from an evolutionary perspective:

> [M]oral standards are the products of biological and cultural evolution. Biological evolution has given us brains capable of certain cognitive tasks, and capable of manifesting certain emotions. On top of this bio-psychological substrate, cultural evolution has built a wide range of particular norms and conventions. The field of ethics can be interpreted as being devoted to influencing the course that the evolution of these norms and conventions takes (p. 99).

The second goal of business ethics consists in providing frameworks that can help individuals reason through their ethical dilemmas. Considering both goals, the question that arises from an evolutionary perspective is, How does our understanding

of the process of ethical reasoning in business change if viewed through an evolutionary lens? Relatedly, what do the ethical responsibilities of the manager look like under an evolutionary perspective?

There are several arguments that support the use of evolutionary models in business ethics. The most obvious is that evolution has radically altered the pillars that sustain our most basic beliefs and values – it is a ''universal acid,'' to use Dennett's term (1995). Therefore, it is useful to explore how our understanding of business ethics would change if viewed from an evolutionary perspective, i.e. viewed from the perspective proposed by Stoelhorst (2008) that management be viewed as an evolutionary discipline. Many individuals may find that the evolutionary approach does not appeal to them, just as some individuals do not find Kantian deontology, or consequentialism, or virtue ethics, appealing. Yet these competing frameworks co-exist and are all taught in business ethics courses. The evolutionary approach can be regarded as one additional conceptual framework with which to analyze problems in business ethics. Furthermore, to the extent that business ethics as a discipline is concerned with bringing about *changes* for the better in business practices, these practices can be examined under the four general evolutionary processes of variation, selection, retention and diffusion, and competition for scarce resources.

First, business ethics as a discipline is interested that firms *vary* their practices along more ethical lines (at least those firms that have non-ethical or unethical decision-making cultures). Second, it is interested in understanding what behaviors will enhance the possibility that a firm will survive the successive *selection* screens of a competitive environment[3]; this may enable it to confront with better evidence the dominant paradigm in business and economics academia (not necessarily in business practice) that relates superior performance exclusively to enhancing shareholder value.

Third, it is interested in how ethical best practices are retained in the organizations in which they are first introduced, and how they are diffused to other organizations until they become institutionalized in the form of conventions.

Fourth, it is interested in how the struggle for scarce resources – material, financial, and human – has an impact on the first three processes.

Additionally, business ethics can benefit from the longitudinal analysis that is the hallmark of the evolutionary approach. According to Hodgson (2002, p. 259), ''Darwinism also involves a basic philosophical commitment to detailed, cumulative, causal explanations.'' The key point to recognize here is that ethical time is not reversible – that events that are ethically salient leave tracks in individual memory and collective history that cannot easily be erased, thus giving business ethics a unique and complex historical character.

It is not the claim of this paper that many of these characteristics cannot be effectively analyzed through alternative lenses; only that evolutionary theory is well suited for this exercise.

Inertial forces at the individual, organizational, and institutional levels

Evolutionary theory in economics has largely focused on two levels of analysis: the organizational and the institutional. At the level of organizations, Nelson and Winter (1982) proposed that organizational routines be considered the units of analysis, or the entity that is selected. At the level of institutions, broadly defined as ''standardized patterns of behavior'' (Nelson and Sampat, 2001), the entity selected is custom or tradition, or convention. At the level of the individual, one can define values and habits as the equivalents of organizational routines or institutional customs. The important characteristic to note with values and habits, routines, and customs and conventions, is that they create inertia, i.e., a *disposition* to behave in a certain way. Inertial forces make individuals, organizations, and institutions resistant to change. They therefore bring longitudinal dispositions to bear on the actions and decisions of individuals.

All individuals have values which make them see situations as appropriate or inappropriate. These values form an integral part of the decision making of individuals in organizations, even though they may not be explicitly invoked. For example, a pacifist would not see any attraction in a handgun distributorship, no matter how financially lucrative it is and even where such an activity would be legal. Similarly, many business families in India with a tradition of strict vegetarianism do not enter businesses such as leather, processed seafood, etc. A European manager

who has been brought up to take the welfare state for granted may hesitate when faced with the prospect of dismissing an employee in the US without any notice period or compensation. Thus, it is clear that we all join organizations with our own baggage of values, which constrains our ability to change our behaviors. Similarly, habits too predispose us towards certain actions. According to James (1890) – ''Habit is the enormous fly-wheel of society, its most precious conservative agent. It dooms us to fight out the battle of life upon the lines of our nurture or our early choice, and to make the best of a pursuit that disagrees, because there is no other for which we are fitted, and it is too late to begin again'' (p. 63). For Aristotle, habits play a central role in virtue – ''Moral education assumes that someone has the right sort of nature, and it trains him by habituation, ethismos until he acquires the right habits (ethos). These habits are patterns of action acquired by training that uses pleasure and pain as incentives'' (Irwin, 1999, p. 324). One habit that most of us have, albeit to varying degree, is that of obedience to authority figures. Parents, teachers, uncles, aunts, and grandparents are some of the authority figures that we have grown up obeying, and in organizations, our superiors are the authority figures we are predisposed to obey. Sometimes we obey them even when we are uncomfortable with what they ask us to do. Challenging the decisions made by superiors thus becomes very difficult for people who have become habituated to obeying authority figures. One of the most important aspects of values and habits is that most of them have served us in good stead in the past. In this sense, they facilitate decision making as much as they constrain it. We generally do not conserve values and habits that have been consistently detrimental to our well-being. In this respect, we can think of them as behaviors that have been *selected* out of a broader range of behaviors, and *retained* for their contributions to our well-being.

At the level of the organization, the inertia generating entities are routines. According to Nelson and Winter (1982) they are persistent features of an organization, and include any characteristics that can range from well specified technical routines for production; procedures for hiring and firing; ordering new inventory; increasing production of items in high demand; policies regarding investment, R+D, advertisement; and strategies about product diversification and overseas investment (p. 14). Nelson and Winter (1982) take pains to point out that their emphasis on routines does not preclude non-routine behavior in firms.

> High-level business executives do not, in the modern world, spend humdrum days at the office applying the same solutions to the same problems that they were dealing with five years before. We do not intend to imply any denial of these propositions in building our theory of business behavior on the notion of routine. For the purposes of economic theorizing, the key point is somewhat different. It is that most of what is *regular and predictable* about business behavior is plausibly subsumed under the heading ''routine,'' especially if we understand that term to include the relatively constant dispositions and strategic heuristics that shape the approach of a firm to the non-routine problems it faces (p. 15).

Cohendet and Llerena (1998) outline several key aspects of organizational routines. First, they encompass the organization's knowledge basis and constitute the organizational memory. Second, they are based on interpretations of the past rather than on anticipations of the future. Third, they serve a strong cohesive function, in that they continue long after the individuals who created them have left the organization; in this way, they confer on the organization an identity that is distinct from that of the individuals within it. Fourth, they allow for the predictability of individual behavior that is so critical for collective action. Finally, they are typically hard to change, and thus lead to inflexibility and inertia in the organization (after taking account of variation in their performative aspect – Feldman and Pentland, 2003). Cohendet and Llerena (1998) add that organizations change routines through trial and error experimentation and search.

Finally, at the level of institutions, customs and conventions contribute inertia. Institutions have been defined in many different ways. Firms, governments, and the law (such as contract law) have been referred to as the institutions that support (or should support) the functioning of markets. Broader definitions of institutions have included norms and conventions. Nelson and Sampat (2001) refer to institutions as ''patterned human interaction'' (p. 40) or ''social technologies''. An important facet of economic institutions is that they guide behaviors and reduce the costs of transacting business (North,

1990, 2005). Organizations need to know what the institutional practices are in order to be able to operate efficiently. For example, an American firm setting up a subsidiary in Italy must first understand the norms and conventions of how the relationship with the tax authorities is to be managed (Kelley, 1977). Institutional frameworks differ in different countries, and even in different parts of the same country. Institutions develop over time, through trial and error, and most researchers emphasize that we still do not fully understand how institutions might be deliberately changed or engineered (North, 2005). Whatever the processes are through which norms and conventions become institutionalized, most researchers seem to agree that they are extremely difficult to change in the short term.

Multi-level and multi-stage selection

Multi-level selection (Aldrich and Ruef, 2006; Durand, 2006; Gould, 2002) is the notion that there are selection processes operating simultaneously at different levels – for example, at the individual, organizational, and institutional levels. The selection criteria at the three levels can be different, even contradictory. A team sport like soccer is a good example to illustrate this point. Who makes it to a soccer team? Usually it is skilled ball players, with good physical endurance and above average running speeds. What accounts for the success of a team? It is not so much the individual talent that the team is made up of, but the extent to which the individuals complement each other and work together in cohesion. Individual talent is not a sufficient criterion for team success, and too many highly talented players may even affect the team performance negatively. There have been many instances of teams with very small budgets that have won championships by emphasizing team spirit while other more star-studded teams have not been successful.[4] Similarly, free-riding may improve fitness in the short term at the individual or organizational levels, but will have deleterious effects at the economic level.

For evolutionary business ethics, multi-level selection is important because it brings to the fore the often conflicting interactions of individuals, organizations, and institutions. For example, managers can benefit by expropriating the resources of the firms in which they work, but this affects negatively the prospects of their organizations to be competitive in the future. Multi-level selection also emphasizes the nested hierarchy of levels (Burgelman, 1983; Van de Ven and Grazman, 1999): individuals are nested within firms, firms within industries, and industries within economic systems. Viewing an economic system as a nested hierarchy highlights important features about how we view change. At lower levels in the hierarchy, populations are typically larger: for example, there are more individuals than firms, more firms than industries, and more industries than economic systems. Consequently, at lower levels more variation is introduced into the system, by virtue of the fact that the populations are larger. Furthermore, the lower in the hierarchy, typically the smaller is the magnitude of each variation – individuals introduce smaller variations than firms, and firms introduce smaller variations than are introduced when institutions are redesigned. Higher levels tend to partially structure selection at lower levels. Thus the ability of an individual unit at one level to bring about change at the next higher level is very small, and the noisier the selection regime is, the more the success or failure of these efforts rests on factors outside that unit's control, i.e. luck.

Multi-stage evolution (Eckhardt et al., 2001) refers to the notion that populations are exposed to successive selection screens, and are winnowed at each one, such that the populations exposed to later screens are those that have survived earlier ones The selection criteria in successive stages can be different, and even contradictory. This makes less valid blanket statements about what firms should do, because what they should do might depend upon what stage of selection they are at. Thus, Eckhardt et al. (2001) propose that researchers studying the phenomenon of external financing for start-up firms should not make the mistake of studying only the firms that apply for external financing, because there may be firms with the ''right'' characteristics as defined by external investors, whose founders have decided not to apply for external financing. Friedman's assertion that ''the social responsibility of business is to increase its profits'' (1970) would, from an evolutionary perspective, beg the question – ''Business at which stage?'' It is not clear that the social responsibility of businesses at all stages is to increase profits. Friedman limits his discussion to publicly owned

corporations and his assertion may apply to such entities. But what about start-up firms? It may be more important for them to establish legitimacy among stakeholders than produce immediate profits. Jawahar and McLaughlin (2001) have proposed an interesting descriptive lifecycle model of stakeholder theory, without invoking the evolutionary view, in which they claim that different stakeholder constituencies are given priority at different stages of a firm's lifecycle. Multi-stage selection would facilitate the adoption of such viewpoints.

Multi-stage selection is of great importance for management theory in general, and for business ethics in particular, because it raises critical questions about the sample of populations that makes it through each selection screen (Denrell and Kovács, 2008). For instance, it raises questions such as, Are firms where non-ethical behaviors are perceived those that have passed earlier selection screens *because* of these unethical behaviors? One group of firms for which this question is relevant is multinational firms whose domestic economies are highly corrupt. These firms may not have been able to grow without playing by the ''rules of the game'' in their home markets,[5] and may have incorporated routines that are then carried over to international markets, even those where the business environment is less corrupt. Thus, the entities that make it through selection screens are by definition those that were successfully adapted to compete in past screens, not in future ones. Given the inertial tendencies we have already described, even with foresight incorporated, there is no promise that the selected entities will be appropriately adapted for the challenges they face in subsequent screening processes.

Thus, multi-stage selection obliges researchers to study on the one hand the firm together with its environment, and on the other the dynamic interactions of the firm and the environment over time.

An evolutionary grounding for moral luck: implications for evaluating individual responsibility

There are two views of the ''responsibility'' of an individual – the first based on a causal relationship between an event and the individual; the second based on the individual's capacity for self-governance. The first view is reflected in the definition of the Oxford Advanced Learner's Dictionary: ''responsible for somebody/something'' is ''having the job or duty of doing something or caring for somebody/something, so that one may be blamed if something goes wrong''. The expression ''being responsible for something'' is defined as ''being the cause of something and so able to be blamed for it''. For Aristotle also, the terms cause, reason, and responsible (aitios, aitia) are very closely related. Irwin (1999) remarks that:

> Aristotle's four types of explanation include more than those we commonly call causal explanations. Sometimes, therefore (e.g., 1100a2, 1137b27) 'reason' is appropriate. 'Cause' also renders the preposition *dia* ('because of')…
>
> In legal contexts the adjective *aitios* often indicates not only causation but also blameworthiness, and correspondingly the abstract noun *aitia* indicates both the cause and also the ground of accusation. Hence 'responsible' is sometimes apt (p. 319).

Bowie (1999) proposes a Kantian notion of the responsibility of an individual that is more in tune with the second view of capability. It is based on the twin concepts of autonomy and self-governance. According to Kant, autonomy implies the capability of self-governance, which in turn implies that the individual is a responsible being. ''Thus, there is a conceptual link between being a human being, being an autonomous being, being capable of self-governance, and being a responsible being'' (p. 44). Of course, for morality to be within our control – as Kant would like to claim – we have to be autonomous and self-governing; otherwise our decisions would not clearly be our own. Indeed, the very fact that morality is taken to be wholly within our control is what gives it its unique worth (Michaelson, 2008).

This Kantian line of argument suggests that a person's moral standing should stand apart from luck. Moral luck theorists argue that things are not so simple. The fact is that when we evaluate moral standing we do feel justified in judging individuals inclusive of their good and bad fortunes – i.e. of the things that were outside their control as well as the things that were inside their control. This is the

problem of moral luck. Even though a significant part of what someone does may be beyond their control, we continue to evaluate them as moral objects (Nagal, 1979; Williams, 1979).

It is our argument that key elements of evolutionary theory provide important context for debates regarding the appropriate evaluation of individual responsibility in organizations. The evolutionary perspective leads us to two key conclusions regarding responsibility. First, evolutionary theory suggests that we should reexamine the concept of autonomy and self-governance provided by Kantianism in its proper evolutionary context. Second, if responsibility is to be based on a causal relationship between an event and an individual's actions or inactions, then an evolutionary perspective suggests that making that link is more difficult than many ethical theories would have us believe. We take these issues up in turn.

Conceptions of autonomy and self-governance

In a powerful critique of modern moral theory, MacDonald (2001) argues that:

> [A]n evolutionary perspective forces us to take an explicitly historical view of our moral standards. Much of moral theory is weakened by the extent to which it fails to appreciate the importance of considering moral agents as historically and socially situated. Moral theory mistakenly assumes, for the most part, that agents (or societies) are in a position of radical choice *vis-à-vis* their moral principles, or more generally, their social arrangements. Attention to social conventions – actual, existing, working bits of cooperative behavior – is a way of taking seriously the moral work already done by cultural evolution (p. 99).

Put in the context of business ethics, MacDonald's key argument here is that the evolutionary view emphasizes how individuals and the organizations they work for can only be truly understood if they are viewed as products of historical accumulation. Such cumulative processes tend to be both strongly inertial and strongly path dependent, which means that they are sensitive to initial (often random) conditions and the accumulation of contingencies that later become stubborn facts (North, 1990). Thus, individual character and organizational worlds evolve, and key aspects of this evolution are vulnerable to fortune (good or bad). As Michaelson (2008) reminds us, while our character might be ultimately within our control, local factors such as our upbringing greatly influence who we become: thus bound, we are not – as MacDonald remarks – in a position of radical choice regarding the content of our characters and the values we have been habituated into.

Moral luck theorists describe this as constitutive luck, arguing that as well as our genes, care givers, teachers, peers, and other environmental influences all contribute to making us who we are. Indeed, there is a long history in Aristotelian philosophy that recognizes the contingency of individual character (Nussbaum, 1986; Williams, 1985), i.e. that it is easier to cultivate certain virtuous characteristics when circumstances "break in our favor" than when they do not (Michaelson, 2008).

Similar arguments also extend to organizations. As with individuals, the constitution of organizations is in large measure contingent, and certainly not beyond the influence of luck, happenstance, and serendipity. So here again this constitution is rendered more easily understood when we look at it through an evolutionary lens. The values that become routinely espoused in an organization are a product of both the moral initiatives managers argue for (or against) and the organizational screening mechanisms (structures, processes, culture) that filter them. These mechanisms are themselves evolved products of organizational history, in which certain contingencies are conspicuously influential. One is founding entrepreneurs, who shape the basic footprint of an organization in its early years. Some organizations (e.g. Merck, Johnson and Johnson, etc.) have the good fortune of being founded by individuals with deeply held values that imprinted their ventures with screening mechanisms that facilitate corporate social responsibility (Stinchcombe, 1965). As the recent spate of corporate scandals perhaps indicates, not all organizations are so lucky. For other organizations, it is crises that imprint them in important ways – crises that can unravel in the most unpredictable fashions. Such episodes shape the internal organizational fabric, thus influencing which managerial behaviors get screened in and out. Again, a good example in this regard is Royal Dutch Shell, whose contemporary corporate character has been considerably shaped by the twin crises of the Brent Spar and Nigerian protest movements, events which

were carried far outside Shell's control. It would be difficult, if not impossible, to understand Shell's current corporate practices without regard to the ways in which these recent episodes in its history have influenced the organization's procedures, routines and conventions. From an evolutionary perspective, changes in the external selection environment (the advance of more critical and salient stakeholders) have led to changes in Shell's internal environment, thus its screening processes. Managerial initiatives that would once have been screened out at Shell now routinely find support. The example of Shell therefore highlights several parts of the general argument we advance in this paper, in that it shows the importance of:

1. hierarchical selection mechanisms, with the broader external environment selecting for different routines inside firms like Shell (that in turn act as selection mechanisms); and
2. the stickiness of evolved mechanisms, which demonstrably resist easy change.

Thus, a full consideration of evolutionary theory encourages us to rethink the concept of autonomy that Kant uses to attribute responsibility to the individual. It suggests that we must use a more flexible conception of autonomy, one that recognizes that the role of forces that shape an individual's character are only partially within an individual's control. No individual or organization stands outside the path of their own evolutionary development, and so every character is vulnerable to the influence of contingencies and circumstances beyond their control that nonetheless shape who they are as a moral entity. Neither organizations nor the managers within them are completely free to choose their moral principles, and it would be a mistake to hold them accountable as if they were able to make such choices unencumbered by a mass of historical detail. Fundamentally, many aspects of the constitution of our character are not completely independent of the world we live and act in.

Responsibility for consequences: evolutionary processes and resultant luck

A second implication of evolutionary theory for the responsibilities of managers concerns the results of moral actions. For, if responsibility is to be based on a causal relationship between an event and an individual's actions or inactions, then evolutionary theory suggests that making that link is more difficult than other ethical theories would have us believe. Moral luck theorists frame this as a problem of resultant luck. What we suggest here is that the concept of resultant luck makes more sense when considered within an explicitly evolutionary framework of thinking.

According to Nelkin (2004), resultant luck is simply "luck in the way things turn out." A classic example of this is two drivers who fail to check whether their brakes are properly maintained on their cars: this results in one driver injuring a pedestrian, but the other does not. We commonly make different moral assessments of the two drivers, because things turned out differently for them. This is a case of resultant luck. A much discussed example in the organizations and ethics literatures is the Challenger space shuttle disaster. Investigations into the cause of the disaster revealed that the shuttle's O-rings, which connect segments of the solid rocket booster, had malfunctioned during and after the launch. The solid rocket booster was supplied by Morton Thiokol, one of NASA's contractors. Roger Boisjoly, an engineer working at Morton Thiokol at the time of the disaster, had been seeking to improve the seals of the O-rings since 1985, and had repeatedly informed the senior management of his company of the poor performance of the seals at temperatures below 75° Fahrenheit (the temperature at the time of the launch was around 30° Fahrenheit). He was frustrated when both the senior management of his company and the client (NASA) did not seem to comprehend the gravity of the situation and did not take the required action even after his repeated warnings. Of course, the space shuttle had been launched many times without exposing the faulty O ring problem, even though the faulty O-rings existed in prior launches also – perhaps owing to moral luck. But in the Challenger episode the results were not so kind to NASA and its astronauts, all seven of whom lost their lives on the doomed spacecraft.

Of course, from an evolutionary perspective, the notion of luck has to be made coherent with the fundamental claim that there are no uncaused causes, i.e. that every event can be traced to a cause (Hodgson, 2002, p. 274). If this is the case, then

every event is determined by scientific laws and by something else, rather than luck per se. Thus, what we conveniently ascribe to luck can actually be examined as being determined by some stochastic process that perhaps is not visible to us, but nonetheless is, in principle, discernable. Evolutionists feel obliged to search for causal explanations, albeit with stochastic drivers – hence luck is the ''luck of the draw'' where the draw in question is some particular aspect in the lottery of life (Borges, 1962).

Nonetheless, there are good reasons why we might suppose that the ''draws'' in question are subject to significant stochastic processes in (complex) socio-economic systems.

First, following from the Challenger example, socio-economic systems constantly interact with engineered systems and natural systems, both of which are often incredibly complex and thus subject to nonlinear properties. It often makes good sense to view these systems as stochastically determined. Yet, the behavior of these systems deals out implications for socio-economic systems, i.e. NASA and its managers.

Second, within socio-economic systems, selection processes are variable rather than having fixed properties. Most humanly devised selection screens are noisy, imperfect, imprecise, and of limited fidelity. What gets through these screens and eventually renders consequences varies greatly. For example, work by March and colleagues (Cohen et al., 1972) illustrated that organizational decisions may sometimes be modeled as garbage can processes. Ethical decision makers frequently have to contend with the impact of such unpredictable decision processes on their actions.

Third, selection criteria are different at different stages and levels, i.e. multi-stage and multi-level selection processes add considerable uncertainty to the eventual outcomes of systems. Again, if we take ethical choices as a unit of analysis, what appears to be a good choice in a lower level committee process may not be evaluated as a good choice at a higher or later committee stage. Shell's lower-level decision-making that led to its plan to sink the Brent Spar is a case in point. Shell got unlucky because some long time after its engineers chose their strategy, a small group of Greenpeace activists came up with an ad hoc strategy to counter Shell (hatched, somewhat unpredictably, in a Hamburg bar). In the internal struggle that ensued within Greenpeace, the Hamburgers eventually won out – their strategy was selected. This somewhat unpredictable sequence of events subsequently led Shell to become one of the unluckiest of oil companies. Yet, how the Shell and Greenpeace decisions filtered through their respective organizations and combined to create the Brent Spar incident was clearly very hard to predict.

For these reasons an evolutionary perspective offers considerable support for moral luck theorists' arguments that there is a certain irreducible element of luck that enters into causal chains. In complex open systems, causal chains are best thought of as partially understood, and as being influenced by stochastic properties that insert important gaps (the chance element) into the relationship between an individual's actions (or inactions) and subsequent events. In such systems, elements of moral luck often enter into final outcomes, making it much harder in principle to support consequentialist arguments for individual responsibility that are based on chains of events.

We recognize, of course, that both constitutive and resultant luck are deeply troubling for those who wish to evaluate the ethical performance of managers, since it suggests that they are less accountable for their behavior than many moral theorists would like to believe (Michaelson, 2008). However, moral luck theorists have argued that there is no way to logically eliminate the fact that we are more vulnerable to moral (mis)fortune that we have traditionally supposed, a view that we think is not only consistent with the key tenets of evolutionary theory, but also one that an evolutionary perspective lends quite powerful support to.

Conclusion

This essay has attempted to explore the influence of evolutionary forces on the moral reasoning process of managers. This perspective obliges us to take note of individuals, organizations, and institutions as products of historical accumulation, and to recognize that moral luck is an inherent product of these processes. This constrains our ability to make ethical judgments without accounting for the evolutionary processes operating at the individual, organizational, and institutional levels. An evolutionary view does not imply a deterministic stance on corporate social responsibility but it does suggest circumspection in the retrospective moral evaluation of complex

events. There is a balance of forces influencing managerial ethics – an exact balance that varies with time and circumstance. There is room – plenty of room in our view – for attributing moral responsibility to managers. Individual managers are the source of all moral initiatives in organizations; arguments for one action over another always begin with one or more managers arguing the case for it.[6] In our view there is no shortage of moral initiative in organizations – it is always there, spontaneously bubbling up. However, we believe that many ethical analyses leave the reader expecting too much of flesh-and-blood managers because they fail to paint an accurate picture of the extent to which moral decisions are within a manager's control. Luck and constraints are ubiquitous. When things go morally wrong, analysts frequently suppress the role of luck and constraints in their judgments in favor of focusing on the insufficiencies of the individuals involved. We do not want to become apologists for managers who make unethical choices; those decisions belong to them and always will do so. But we also believe that zealotry itself is a temptation, must be appropriately measured, and that it is rather easy to underestimate how difficult the task is to ensure an organization behaves ethically. An evolutionary perspective, we think, helps us towards a better balance of judgment. It may therefore help us better comprehend the predicament of managers and the organizations in which they are situated, and better still help us design mechanisms that enable them to choose well when faced with ethical problems.

Thus, an evolutionary view definitely adds complexity (even messiness) to a business ethics analysis. It suggests origins for what Michaelson (2008) describes as the two key forces competing in our moral evaluations, i.e.:

> [T]he evident necessity of attributing moral responsibility as if circumstances were within a moral agent's control… and the recognition that our lives, including our moral decisions and even our moral character, are unavoidably vulnerable to the influence of circumstances beyond our control (p. 785).

Linking business ethics into a broader evolutionary perspective on how open socio-economic systems (such as organizations) work enables us to place the manager in an appropriate setting from which we can better comprehend why the ethical tension Michaelson describes incessantly reappears. One reward for this contextualization might be a greater appreciation by all concerned for the moral risks attendant in many business situations.

Notes

[1] Schumpeter's (1950) discourse on the creative destruction unleashed by entrepreneurial innovation has been likened to the concept of "punctuated equilibrium" in biology. Schumpeter himself explicitly rejected the biological analogy and defined evolution in more general terms. Hayek referred to a spontaneous order emerging out of the actions of atomistic agents acting on locally contingent information (Hodgson, 1993).

[2] There is another implication of accepting multi-level selection. Social Darwinism, which is discredited at the individual level, has gained currency at the organizational level. Publications with laissez faire editorial policies such as The Economist have repeatedly advocated the withdrawal of all forms of subsidies from inefficient European enterprises (both state owned, such as airlines, and privately owned, such as steel mills) because subsidies would perpetuate inefficiency in the market, and penalize efficient enterprises. A curious fact is that Herbert Spencer was a sub-editor at The Economist for five years.

[3] This issue is crucial for the business ethics enterprise. There are strong voices (e.g. Collins and Porras) that claim that ethical behaviors, rather than the single-minded pursuit of profit, enhance the future competitiveness and viability of firms. This view contrasts with the view of many economists (e.g. Friedman, 1970) who claim that businesses should concern themselves exclusively with profitability.

[4] For example, Real Sociedad and Athletic Club Bilbao won the Spanish league several times in the eighties with local players whom they had groomed from a very young age, whereas FC Barcelona (with Maradona and Schuster, among other international stars) and Real Madrid were not as successful in this period.

[5] Whether these firms are perpetrators of corrupt practices or are themselves victims of the corrupt system is an issue that is open for debate.

[6] Our thanks to an anonymous JBE reviewer for highlighting this point to us.

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