Before Virtue:
Biology, Brain, Behavior, and
the "Moral Sense"

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ABSTRACT: Biological, brain, and behavioral sciences offer strong and growing support for the virtue ethics account of moral judgment and ethical behavior in business organizations. The acquisition of moral agency in business involves the recognition, refinement, and habituation through the processes of reflexion and reflection of a moral sense encapsulated in innate modules for compassion, hierarchy, reciprocity, purity, and affiliation adaptive for communal life both in ancestral and modern environments. The genetic and neural bases of morality exist independently of institutional frameworks and social structures. The latter not only shape moral behaviors within circumscribed limits, they also imply a plurality and compartmentalization of roles which may enable or impede the habituation of virtue. Becoming a virtuous agent entails the practical refinement of predispositions *in situ* as a member of a community of practitioners rather than entailing a normative ethical educational project seeking an intellectual resolution of abstract moral questions.

KEY WORDS: behavioral ethics; business ethics; intuition; intuitive ethics; moral judgment; moral sense; virtue

IN THIS ARTICLE I use conceptual and theoretical resources from the biological, brain, and behavioral sciences to argue that the acquisition of moral agency in business involves the recognition, refinement, and habituation of a universal modularized moral sense that is adaptive for communal life (see Figure 1, p. 352). This discourse is located within a classical tradition of Aristotelian and Darwinian naturalism and grounds its theory of ethical behavior in the biological and behavioral sciences but recognizes that morality is culturally- and socially-situated and shaped within circumscribed limits. The view that *Homo sapiens* possesses an evolved "moral sense" (*The Descent of Man*, chap. 4, p. 120) and is "constituted by nature" to acquire the virtues (*Nicomachean Ethics*, book II, chap. i, p. 31) is acknowledged widely by a number of psychologists, biologists (e.g., Flack & de Waal, 2004; Pinker, 2002; Wilson, 1998), and philosophers (Frederick, 1995; Wilson, 1993). Interpreting virtue from this perspective (i.e., that our morality is not "independent of our animality," MacIntyre, 1999a: 5) bridges complementary traditions in biology, psychology, neuroscience, and philosophy, and has important normative implications. My contention is not that biological, brain, and behavioral sciences *substitute* for

ethical discourse, rather they offer strong and growing support *for* the virtue ethics account of moral judgment and ethical behavior in business organizations *against* rival claims (see Oakley & Cocking, 2001).
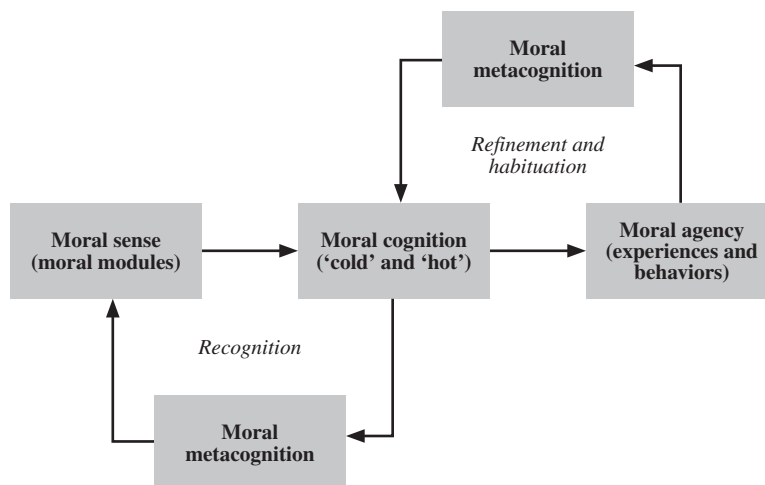

Figure 1: Conceptual framework for moral metacognition

Business ethics and business schools' ethics curricula have been resistant towards and slow to accommodate new scientific ideas (Messick, 2004). Indeed more generally the socio-biologist Edward O. Wilson[1] considered it "astonishing" (1998: 283) that the scientific study of ethics has advanced so little since the nineteenth century, and argued that further scientific progress in the moral domain rests on paying attention to: (1) defining the moral sentiments; (2) studying the genetics of the moral sentiments and their development in terms of the history of ethical systems and the cognitive moral development of individuals living in different cultures; (3) exploring the 'deep history' of the moral sentiments and why they exist at all. Frederick (1995) described the moral sense as an evolutionary under-layer on which socio-cultural ethical systems, principles, and rules are "*subsequently* built up" (290, emphasis added); to this extent the moral sense comes *before virtue*. Notwithstanding these various claims, there is a strong caveat: acceding to the view that *Homo sapiens* possesses an innate moral sense ('innate' meaning "organized in advance of experience" rather than "un-malleable," see Graham, Haidt, & Nosek, 2009: 1031) does not entail that people are "innately good," rather their evolved nature predisposes them to be "potentially good" with respect to the life of the communities of which they are a part (Wilson, 1993: 12).

The article is organized as follows: I begin by outlining the need for a scientific account of virtue and argue that recent developments in the brain and behavioral sciences offer one possibility for such an account; the Darwinian tradition of the 'moral sense' is discussed from the perspective of the universal basic moral ground rules as adaptations for group living; the origins of these biological adaptations are explicated in terms of an innate 'modularity of morality' juxtaposed alongside a

psychological account of moral judgment based on complementary systems of reflective and reflexive processing; the ways in which relevant features of institutions and social structures interact with and impact upon a modularized and reflective/reflexive morality are outlined; finally the article concludes with a consideration of the normative implications of these arguments from the point of view of moral learning and moral metacognition. The article contributes to the understanding of virtue ethics by offering an integrative perspective which bridges a number of disparate traditions.

1. BACKGROUND AND AIMS

The Aristotelian tradition of virtue ethics, in which intellectual virtues are learned but moral virtues are acquired by habit, is not only an appropriate subject of study for business ethics researchers, it is also an important practical issue for leaders and managers who are concerned with the question of how to be a morally virtuous agent. In this view moral agency is concerned with what it is "to *be* a particular kind of human being" (Weaver, 2006: 341) and with those aspects of moral character that enable a person to achieve some end (*telos*) which has intrinsic rather than purely instrumental value (Moore, 2005). The virtue perspective applied to business posits that the character of a moral agent is infused with virtuous qualities and strengths that are inherently good, for example, confidence, courage, humanity, justice, optimism, resilience, temperance, transcendence, and wisdom (Dutton, Roberts, & Bednar, 2010). Mutual dependence in business organizations, as in any other social group involves generosity towards others (Halliday & Johnson, 2009), moreover trustworthiness, sympathy, and fairness can serve to maintain and enhance organizations' reputations, and create business opportunities and thereby be pursuant of both intrinsic and instrumental ends (Maitland, 1997).

Virtuous behavior in business organizations is a practical matter at the nexus of biological, psychological, and socio-cultural factors: "the more we know about how people actually behave in organizations [and why they do] the richer and more informed our moral judgments, and more important, our decisions will be" (Solomon, 2003: 49). Kantian[2] and utilitarian ethics with their emphasis on "dispassionate abstract" moral reasoning (Bandura, 2002: 102) resonate less well than does virtue ethics with biological, brain, and behavioral scientific accounts of how people actually think, decide and act (i.e., through a blend of purpose, disposition, affect, cognition, and social engagement). Both David Hume and Adam Smith observed that human morality is subject to the powerful influence of affect, and not governed solely by abstract, intellectual rules and rational processes devoid of emotion (*contra* Kant, see Flack & de Waal, 2004). Within the virtue tradition itself virtues are not only behavioral and cognitive they are—as observed by MacIntyre in his foundational work *After Virtue* (1981)—also affective: "virtues are dispositions not only to act in particular ways but also to *feel* in particular ways" (MacIntyre 1985: 149 emphasis added). An acknowledged limitation of evolutionary psychological accounts of morality (e.g., Cosmides & Tooby, 2004) is the overreliance placed on "purely cognitive rather than emotive [i.e., affective] mechanisms" (Messick, 2004: 131). It is the latter and not the former which provide human beings with a sharply

focused evaluative lens through which they are able to judge effortlessly and quickly (i.e., instinctively) the actions (e.g., cheating or free-riding behaviors) of others.

Cognition, within the biological and behavioral tradition (including moral cognition) is not cold, calm, and dispassionate; instead, feelings which are "just as cognitive as other percepts," "neither intangible nor elusive," and far from being a luxury are vital "internal guides" for decision making in complex judgmental situations (Damasio, 1994: xv). Indeed Haidt (2004) reasoned that when people dichotomize 'affect' and 'cognition' they actually but inadvertently refer to two kinds of cognition, 'hot' and 'cold.' Moreover, Sutherland and Hughes (2000) argued that given the accumulating evidence for the significance of affect and the attribution of moral cognition to specific brain regions (with the caveat that natural selection processes are the phylogenetic basis for brain structure but they do not directly create ethical behaviors, Wasieleski & Hayibor, 2009) it is hard to understand why so many philosophers "remain under the spell of Kant" and continue to argue that "morality requires a purely rational logic" based on universal rules (Sutherland and Hughes, 2000: 74).

In the same way that the study of reasoning in the brain and behavioral sciences has embraced the notions of 'hot' (i.e., emotionally salient) as well as 'cold' (i.e., emotionally neutral) cognitions (Goel & Dolan, 2003), the biology, neurology, and psychology of affect and emotion now are vital components of the scientific study of business ethics (Beugré, 2009; Reynolds, 2006; Sonenshein, 2007). The emergent field of neuroethics bridges philosophy and neuroscience, with concerns both for the neuroscience of ethics and the ethics of neuroscience in areas such as biomedical ethics (see Salavdor & Folger, 2009, for a review). Human morality is not a question of reason *or* affect; it is the outcome of a dual system of information processing that: (1) implicates reason *and* affect as sources of 'data' in moral agency and moral behaviors; (2) is grounded in brain structures which have arisen through the processes of natural selection. The potential contribution of virtue ethics to the management and leadership of business organizations may be better understood and virtue 'leveraged' more effectively by conjoining relevant and complementary aspects of biological (i.e., moral sense/moral instinct tradition) and psychological (i.e., dual theory of mind tradition) inquiry[3] within a view of moral learning as a socially-situated phenomenon (i.e., social learning traditions).

A substantive implication for modern business virtue ethics to be drawn from the scientific study of human cognition is that rationalist models of moral judgment can never succeed in capturing fully an embodied moral reasoning (Haidt , 2001). On the other hand a "scientifically burnished virtue theory along the lines advocated in the *Nicomachean Ethics*" offers a much closer approximation to how humans actually moralize (Casebeer & Churchland, 2003: 189). This harks back to Hume who, even though he relied on an artificial and empirically inadequate dichotomy between 'passion' and 'reason' (Sutherland & Hughes, 2000), was much closer to modern biological and psychological accounts than many of his contemporaries. And, as Adam Smith pointed out in *The Theory of Moral Sentiments* (1759), moral distinctions are derived "not from pure abstract reasoning alone, but from a moral sense" (Arnhart, 1998: 70). More broadly, and unlike its rival moral philosophical

traditions, virtue ethics not only is a line of philosophical inquiry that ought not be pursued in isolation from the biological and behavioral sciences, it is uniquely placed amongst moral philosophies to form a bridge to these other traditions making new extensions possible (see Solomon, 2004b). It is perhaps ironic therefore that MacIntyre bemoaned the irredeemable fragmentation of disciplines in modern scholarship and the losses of "any large sense of and concern for enquiry into the relationships between disciplines" and "the conception of disciplines as contributing to a single shared enterprise" (MacIntyre, 2009: 174). MacIntyre called for an integrated account of the unity of 'being human' from physicists, chemists and biologists, historians, economists and sociologists. Given that evolution has equipped *Homo sapiens* with a moral cognition that is indisputably affect-laden it would not be unreasonable to add behavioral and brain scientists to MacIntyre's list.

2. THE DARWINIAN MORAL SENSE

An innate moral sense predisposes *Homo sapiens* to specific types of virtuous behaviors which are conducive to communal living, but the particular expression of the moral sense is shaped by developmental, contextual, social, and cultural forces (Arnhart, 1998; Frederick, 1995; Wilson, 1993). In elaborating this argument, I shall begin by outlining an evolutionary account for moral behavior based on the concept of an evolved 'moral sense' or 'moral instinct,' postulated as adaptive for inclusive fitness in ancestral (proper[4]) environments and relevant to an understanding of intuitive moral judgment and moral agency in modern (actual) environments. The roots of this tradition may be traced at least as far back as Adam Smith, but most notably to Darwin and *The Descent of Man, and Selection in Relation to Sex* (first published 24 February 1871). Darwin described the 'moral sense' (the title of the fourth chapter of *The Descent of Man*) as the "most noble of all the attributes of man" (120) accounting for his [*sic*] 'social virtues,' and an innate sense of fairness on the presupposition that

> primeval man, at a very remote period, was influenced by the praise and blame of his fellows. . . . [M]embers of the same tribe would approve of conduct which appeared to them to be the general good, and would reprobate that which appeared evil. To do good unto others—to do unto others as ye would they should do unto you—is the foundation stone of morality. (Darwin 1874: 131)

The Darwinian 'moral sense' is part of a tradition of empiricism and naturalism with a lineage through Hume, Smith, and Hutcheson reaching back to Aquinas, and ultimately Aristotle (Sutherland & Hughes, 2000) summarized by Arnhart (1998) thus: (1) the good is the desirable; (2) only human beings can pursue happiness as a deliberate conception of the fullest satisfaction of their desires; (3) only human beings have the capacities for reason and language that allows them to judge moral actions in the light of previous experiences and future projections; (4) human beings are social and political animals, and their affective, cognitive, and conative capacities are fulfilled in social and political life; (5) the fulfillment of *Homo sapiens*' moral potential requires social learning, habituation, and the exercising of prudential

judgments with regard to the needs and social practices of the group; (6) conscious-ness allows human beings not only to reflect upon and understand their own moral cognitions, i.e., think about them, make sense of them and be consistent (Hartman, 2004), but also to formulate what is right and wrong and act in accordance with those conceptions.[5]

From an evolutionary perspective these assertions make sense if for no other reason than because *Homo sapiens* is the most gregarious of all the primates,[6] therefore individual survival in ancestral environments was entwined inextricably with the existence and flourishing of 'the tribe.' At the most fundamental level genes, the biological bases of behavior, are programmed to replicate themselves, and in this respect the organisms that house them have been depicted as nothing more than 'gene survival machines' (Dawkins, 1989). However, members of *Homo sapiens*' social groups in ancestral environments were likely to be both genetically related and unrelated. Therefore any explanation of morality which implicates behaviors such as altruism and reciprocity towards non-kin requires also a 'non-selfish' (i.e., cooperative) explanation (Midgley, 2010a). Indeed, in the foreword to the 30th anniversary edition of *The Selfish Gene* and in something of a *volte face*, Dawkins acknowledged that a "good alternative" to the book's chosen title "would have been *The Cooperative Gene*" (Dawkins, 2006: ix).

At an early stage in human evolution cooperative behavior probably became adaptive to the extent that groups which were able to band together in order to for-age, hunt, and defend themselves "were more likely to survive than were solitary individuals" (Wilson, 1993: 70). Across history and cultures human beings exhibit altruistic behaviors ("selfishness in disguise," Dawkins, 1989: 4) in acts of appar-ently "unnecessary kindnesses" (Nicholson, 2000: 183). From the perspective of the individual gene, fitness is inclusive (i.e., extends to the group of individuals which share a particular gene in common) and the value of altruistic behavior towards kin is clear: if kin survive the chances of the information encapsulated in a given genetic code surviving and being passed on are greatly increased. But what is less easily accounted for is altruistic (i.e., unselfish) behavior towards non-kin (i.e., genetically unrelated) members of one's immediate social group, and to an even greater extent, kindness and altruism towards strangers.

Biologists have explained this phenomenon in terms of a variety of processes that enable cooperative group living (see Wasieleski & Hayibor, 2009: 592–95): (1) *reciprocal altruism*: mechanisms for providing benefits to non-kin will persist so long as help is reciprocated at some point in the future; (2) *social contract theory*: social exchanges are controlled by social contract information-processing algorithms which enable individuals to monitor and maintain mutually beneficial social relation-ships, e.g., intuitively detecting cheating, or potential cheating, behaviors; (3) *social dominance practices*: emergence of dominance hierarchies and the development of group norms (i.e., conventions and culture) serve to maintain group cohesion; (4) *cooperative coalitions*: exercising punitive sanctions against non-cooperative behavior, e.g., identify, punish and discourage 'free-riding' in the group. Given that cooperative individuals tend to live longer and have more offspring, those genes which predisposed individuals towards cooperation, reciprocity and altruism came to

predominate in the population (Dawkins, 1989; Wilson, 1998). Hence selfish genes had to be unselfish enough to predispose group-living hominids to engage in cooperative behaviors towards non-kin as well as kin (e.g., in food sharing, or defending the group). Put simply: the extreme view of self-interest and competition within species promulgated by "pseudo-Darwinists" would create a society that was "not just nasty, but also unworkable" (Midgley, 2010b: 38), hence for a group-living and "intensely social" (Haidt, 2004: 286) primate such as *Homo sapiens* such a society could never have been created (i.e., evolved) in the first place, and is nothing less than a denial of the Darwinian view of human nature.

Communal living is a vital aspect of *Homo sapiens* nature, and 'evolutionary altruism' is compatible with 'Aristotelian altruism': "altruism isn't self-sacrifice; it's just a more reasonable conception of the self, as tied up intimately with community, with friends and family who may, indeed, count (even to us) more than we do" (Solomon, 2004a: 1025). The moral systems of thinking, feeling, and acting that codify and enact these 'instincts' are co-decided by biology ("nature") and society ("nurture") (Wasieleski & Hayibor, 2009: 588). In this respect moral capacity is analogous to linguistic capacity (cf. Chomsky):[7]

> [I]n the same way we are born with a moral capacity, and a strong tendency to absorb the moral values of our social environment, but we are not born with a moral code in place. The filling-in is done by the social environment often dictated by the demands of the physical environment. (Flack & de Waal, 2004: 32)

Patterns of profound similarity with regard to 'moral capacity' have been observed by scholars working across disparate fields (Frederick, 1995). Proponents of 'positive psychology' such as Seligman (2002) have, independently of evolutionary biologists (e.g., Hauser, 2006) and social psychologists (e.g., Haidt, 2001), distilled their own set of 'virtues' which appear to be widely endorsed (e.g., found in Confucianism and Christianity). These attributes vary in their details and expression according to the social, cultural, and institutional complexes in which they are developed and expressed (e.g., 'humanity' in Confucius is not identical with *caritas* in Aquinas [Seligman, 2002]). See also Haidt's (2001) social intuitionist model of moral reasoning, and Blum's (1998: 233) discussion of how communities "tell us how to apply our general moral principles to the world." Furthermore, virtue-based intellectual and moral principles are to be found in Buddhism's 'eightfold path': wisdom (right view and intention); ethical conduct (right speech, action, and livelihood); mental development (right effort, mindfulness, and concentration). Indeed, P. R. Lawrence has proposed that the universality of the moral sense could be tested by systematically examining the "basic moral ground rules" (Lawrence, 2004: 63) taught by all religions since these show ostensibly a high degree of similarity. Additionally, business ethicists such as E. D. Scott (2002) and environmental virtue ethicists such as L. van Wensveen (2005) have suggested other relevant virtues in their respective domains which appear also to connect to a set of 'universals.' Table 1 offers a comparison of selected systems of virtues from a variety of historical, philosophical, scientific, and cultural traditions that appear to "generate general-

ized characterizations of virtue that hold across different social settings" (Weaver, 2006: 343). Morality has bio-culturally based widely-shared attributes and recent developments in biological, brain and behavioral sciences depict a modularized morality 'wired into' *Homo sapiens* by nature.

Table 1: Summary and examples of virtues, moral modules, signature strengths, organizational moral values, and environmental virtues.

PHILO-SOPHICAL	SPIRITUAL	BIOLOGICAL	PSYCHO-LOGICAL	ORGANIZA-TIONAL	ENVIRON-MENTAL
Moral Virtues (*Nicomachean Ethics*, Appendix 1, Aristotle 1953/2004)	Buddhist Eight-fold Path (see Goenka, 1993)	Moral Modules (five foundations theory of intuitive ethics) (Haidt & Joseph, 2004)	Virtue Clusters (positive psychology) (Seligman, 2002)	Organizational Moral Values (Scott, 2002)	Environmental Virtues (van Wensveen, 2005)
Courage	Wisdom: right view and intention	Suffering	Wisdom and knowledge	Organizational justice	Care
Temperance		Hierarchy			Respect
Liberality	Ethical conduct: right speech, action, and livelihood	Reciprocity	Courage	Honest organizational communication	Love
Magnificence		Purity	Humanity and love		Compassion
Magnanimity	Mental development: right effort, mindfulness, and concentration	Affiliation	Justice	Respect for property	Reverence
Proper ambition				Respect for life	Humility
Patience			Temperance	Respect for religion	Creativity
Truthfulness			Transcendence		Hope
Wittiness					Sensitivity
Friendliness					
Modesty					
Righteous indignation					

3. THE MODULARITY OF MORALITY

The roots of the morality and universal sense of right and wrong which nature 'built into' the mind of *Homo sapiens* were attributed by Hauser (2006) to a number of innate, instinctive, and intuitive moral principles and processes. These may have evolved as result of increased gregariousness in the shift towards living in relatively large social groups that occurred in response to environmental changes during the Pleistocene[8] (see Mithen, 1996). Hauser favors the view that nature pre-loads abstract rules or principles for moral conduct (such as the principles underlying justice as fairness), but that it is nurture that "sets the parameters and guide[s] us towards the acquisition of particular moral systems" (Hauser, 2006: 180). The brain comes wired with moral modules ("scripts engraved in the mind" and operative without conscious awareness, Hauser, 2006: 99), but differences in moral behavior arise as a result of the ways in which cultures 'use' the intuitive moral modules by relying more heavily on certain modules and less on others, and by assigning differing interpretations to the virtues associated with particular modules but within limits imposed by the modules (e.g., loyalty is grounded in the reciprocity module

but may manifest cross-culturally as loyalty to different groups) (Haidt & Joseph, 2004). For example, Graham et al. (2009) argued that relying on different sets of moral foundations offers an explanation of differences in moral judgment across the US liberal-conservative political spectrum. Hence, if morality is 'wired' into *Homo sapiens* then the wiring is 'soft' rather than 'hard,' i.e., the expression of morality encapsulated in moral modules is modified by developmental, contextual, and cultural factors, and may therefore be subject to refinement and habituation (Figure 1).

   Haidt and Joseph (2004) proposed the existence of compassion (suffering), hierarchy, reciprocity and purity moral modules, but also speculated that there may be others, for example an 'in-group' module relating to innately prepared intuitions regarding co-residing kin (my preferred term for 'in-group' is 'affiliation'). These ideas were later formalized into a Moral Foundations Theory (MFT) (Haidt & Graham, 2007). Each MFT module has a proper domain, i.e., the problems that presented themselves for thousands generations over hundreds of millennia and to which the module was an adaption, and an actual domain i.e., "the set of all things in the world that *now* happen to trigger the module" (Haidt & Joseph, 2004: 60, emphases added). Each of these foundations is characterized by particular automatic affective responses of varying levels of intensity and differences in valence (for example, high and negative in the case of anger, and low and positive in the case of admiration). Intuitive responses associated with each module (i.e., moral intuitions or 'gut feelings') are evoked involuntarily in the actual domains of present-day environments. For example: in the business domain, exploitation of children in the labor markets of third world countries may automatically evoke feelings of compassion; abuse of executive power may evoke feelings of outrage; opportunities to cooperate in business ventures may evoke feelings of gratitude; industrial pollution may evoke feelings of repugnance; affective commitment to one's employing organization may evoke feelings of pride. Table 2 (p. 360) adapts and extends Haidt and Joseph's 'five foundations' framework (i.e., the MFT) to the business context and illustrates this with positive and negative examples for each of the respective modules.

   Morality was not designed by nature to subjugate individual interests; instead it may be seen as a system that emerged out the interaction of the efficient and effective expression and resolution of individual and group interests (Flack & de Waal, 2004). Restraints are placed on deviance ("rogue behavior") by informal rules of the community, and serious deviances constrained by more formal rules which act to limit choice or punish deviation from innately specified and tacitly understood but culturally expressed rules (Lawrence, 2004: 75). Codes of business ethics that emphasize the value of honesty, empathy, or reciprocity may *advocate* 'natural' behaviors however they do not of themselves serve to *constrain* self-interest (Dobson, 2005) or constrain the potentially corrupting power of institutions. Much organizational moral discourse tends to fixate on the codification and enforcement of the ethical behaviors which are, or ought to be, observed in practice. However, even though codes of ethics may be one means of managing behaviors, they cannot legislate for the attitudes that people hold but do not articulate (Sandler, 2005) or the involuntary intuitions that they experience. Haidt and Joseph argued that "a virtuous person is one who has the *proper* automatic [i.e., intuitive] reactions to ethically relevant

Table 2. Five intuitive moral modules, intuitive affective responses, domains (proper and actual), and business examples (positive and <u>negative</u>) (adapted from Haidt and Joseph, 2004: 59, with permission of MIT Press Journals)

	INTUITIVE MORAL MODULES				
	Suffering/ Compassion	**Hierarchy**	**Reciprocity**	**Purity**	**Affiliation**
Proper domain (examples from ancestral environment)	Suffering and vulnerability of one's own children; Caring for elders	Physical size and strength; Domination and protection against enemies/other physical threats	Cheating versus cooperation in joint activities; Sharing resources; Co-sheltering	People with diseases or parasites; Waste products; Rotting or unclean food	Kin attachment; Tribe membership; In-group
Intuitive affective response	Distress;	Admiration	Resentment	Disgust	Pride
	Compassion	Awe	Humility	Repulsion	Antipathy
	Sorrow	Fear	Bitterness	Repugnance	Antagonism
	Sympathy	Respect	Generosity	Aversion	Trust
	Anger	Intimidation	Gratitude	Nausea	Loyalty
Actual domain (examples of business environments)	Labor market exploitation	Leader-follower relationships	Cooperative ventures	Industrial pollution	Team working
	Charitable acts	Abuse of executive power	Networks	Occupational and public health	Affective organizational commitment
Suggested business examples for classroom cases	<u>Child labor in clothing supply chains</u>	<u>Collective non-compliance at Enron</u>	Cooperative relationships amongst firms in Silicon Valley	Halal/Kosher retailing and restaurants	<u>Organizational institutional racism</u>
	Bill and Melinda Gates Foundation	CEO Kelleher at Southwest Airlines	<u>"You scratch my back, I'll scratch yours"</u>	<u>Marketing of 'pure' mineral waters</u>	SAS Business Analytics (*Fortune* Best 100 Companies to Work For)

events" (Haidt and Joseph, 2004: 61). In terms of the acquisition of such responses MFT is consistent with those social learning processes in which experience, implicit and explicit learning, and feedback gradually attune conscious and non-conscious cognition to the intuitive recognition of and response to relevant moral prototypes (Bandura, 2002; Lave & Wenger, 1991; Reynolds, 2006; Vygotsky, 1934). Without a sufficiency of practice the responses to prototypical triggers are automatic and fast, but may or may not be proper under the circumstances; with a sufficiency of the right kind practice, responses to prototypical triggers are not only automatic and fast (i.e., intuitive) but proper also (i.e., virtuous). In the Aristotelian and Darwinian tradition we are not born moral, but we are constituted by nature with a moral sense and the capacity to habituate the virtues in the domains identified by Haidt and Joseph (i.e., purity, reciprocity, affiliation, suffering/compassion, hierarchy). The actions which virtues require in a given context are learned from others; hence employees need 'teachers' such as bosses, co-workers, trainers, coaches, and mentors "who are themselves virtuous" (MacIntyre, 2009: 88).

Haidt and Joseph (2004) argued that moral modules were adaptive to the challenges faced by our forebears in ancestral environments, for example: prolonged infant dependence made it advantageous for mothers to be able to intuitively detect

suffering in their offspring; a favorable disposition towards hierarchy supported living in large social groups; reciprocity in social living brought benefits of cooperation with non-kin, repugnance towards dirty conditions militated against infections and parasites. Various studies (e.g., Bailey & Spicer, 2007; O'Neill & Petrinovich, 1998) offered support for the view that a general evolved 'moral nature' (i.e., moral sense) influences the resolution of certain ethical dilemmas as they arise in relation to group living (e.g., the trolley problem).[9] Such an attributes would be adaptive in that they served to enhance inclusive fitness (i.e., of all individuals in the group) and the likelihood of reciprocal altruism, and militated against non-reciprocation, for example by weeding-out cheating behaviors (Trivers, 1971). Natural selection in highly gregarious species (such as chimpanzees and *Homo sapiens*) favors altruistic behavior (Dawkins, 1989; Greene, 2003; Mithen, 1996; Trivers, 1971), but as Haidt and Joseph (2004: 58) noted, the hallmark of human empathetic and altruistic behavior, as opposed to that of a chimpanzee, is "third party concern: person A can get angry at person B for what she did to person C" and the potential for a response of compassion extends to that of the suffering of non-kin others (Haidt & Joseph, 2004). Recent findings suggest that brain processes dedicated to social cognition and specifically the representation of others' mental states play in an important role in moral judgment (Greene & Haidt, 2002).[10]

Insofar as moral behavior within the wider community is perceived and understood, social processes such as talking ('gossiping') about non-altruism and moral transgressions are adaptive to the extent that they enable individuals in a group to quickly and indirectly (i.e., efficiently) identify cheaters (i.e., we can *learn* vicariously who the cheaters are), to coordinate actions, and cooperate (Haidt & Bjorklund, 2007; Regan, 2007). The information processing mechanisms underlying these social transactions and interactions are deliberative and rational, as well as automatic and intuitive (Reynolds, 2006). MacIntyre noted that on occasion we do have to work-out by logical inference what someone else might be thinking or feeling, but he acknowledged also that we rely on "a primary and more fundamental interpretative knowledge of the thoughts and feelings of others which does not have and does not need inferential justification" (MacIntyre, 1999a: 14). From a 'modularity of mind' standpoint Bolender (2001) argued that mentally computing the relevant variables would, without the encapsulation of the necessary cognitive and affective functions into intuitive modules, be a potentially enormous computational task involving unrestricted memory search (i.e., imposing an impossible cognitive load on information processing). The moral sense affords the individual an autonomous and quick (i.e., intuitive) knowledge of what is just and fair, but moral knowledge has both conscious analytical-reflective ("conscious mental activity that consists of transforming information about people in order to reach a moral judgment") as well as a non-conscious intuitive-reflexive ("the sudden appearance in consciousness of a moral judgment . . . without any conscious awareness of having gone through steps of search, weighing evidence, or inferring a conclusion") components (Haidt, 2001: 818). These reflective/reflexive aspects of moral reasoning are theorized in dual-processing models of social cognition.

4. REFLECTIVE AND REFLEXIVE MORAL REASONING

There has been substantial theoretical convergence within psychology on a view of human cognition comprised of specialist automatic systems and sub-systems capable of intuitive reflexive processing (including intuitive moral judgment), and general purpose deliberative systems and sub-systems capable of reflective analytical processing (including analytical moral reasoning) (Reynolds, 2006; Sonenshein, 2007). This dual conceptualization has a long tradition in psychology going back at least as far as William James (e.g., *The Varieties of Religious Experience*, 1902) and C. G. Jung (e.g., *Psychological Types*, 1921). It was re-invigorated a number of decades ago with renewed interest in the 'cognitive unconscious' and the notion of two parallel (dual) systems of information processing referred to generically as System 1 and System 2 (Bargh & Chartrand, 1999; Schneider & Shiffrin, 1977; Wilson, Lindsay, & Schooler, 2000). System 1 processes are contextually dependent, automatic, largely unconscious, associative, intuitive, implicit, and relatively undemanding of cognitive resources, fast-in-operation (i.e., quick and involuntary) but slow-in-formation (i.e., built-up and habituated over many years of experience and learning). System 2 processes are contextually independent, analytic, rule-based, explicit, more demanding of cognitive resources than their System 1 counterparts, slow-in-operation but fast-in-formation (for reviews, see Evans, 2008; Hodgkinson, Langan-Fox & Sadler-Smith, 2008; Lieberman, 2007). The relationship between the systems is bi-directional, behavior is influenced by a combination of both systems, and the relative contribution of each "is a function of the situation and the person" (Epstein, 2008: 25).

Dual-process theories offer a broad conceptual architecture into which innate and instinctive moral responses may be placed, and may be considered analogous to an Aristotelian dialectic of deliberation (*bouleusis*) and desire (*epithumia*). There are other parallels: the centrality in Aristotle's moral philosophy of acquiring intellectual virtues by instruction and learning, and moral virtues by practising and habituation is commensurable with two other aspects of dual-processing, namely that intellectual virtues may be formed *relatively* quickly ("Intellectual virtue owes both its inception and its growth chiefly to instruction," *NE*, book II, chap. i, p. 31), whereas moral virtues are formed *relatively* slowly ("Moral goodness . . . is the result of habit," *NE*, book II, chap. i, p. 31).

Within the Aristotelian tradition *moral virtues* are axiomatic to social living; within the Darwinian tradition the *moral sense* is similarly axiomatic. Evolution has prepared *Homo sapiens* for social life by endowing individuals with the capacity for rapid, involuntary, affect-laden concerns (i.e., intuitive moral judgments) regarding social interactions which "emerge at various times during childhood, at which point they get built-up or played-down by the local culture" (Haidt, 2004: 286). Sonenshein (2007) adapted this idea and applied it to management in his Sensemaking Intuition Model (SIM) arguing that individuals act like 'intuitive moral attorneys' who search for confirmatory evidence of their initial intuitions, the latter are accompanied by high levels of certitude and relatively impervious to disconfirmation.[11] Reynolds (2006) integrated many of the above lines of evidence in a neurocognitive

model of ethical decision making based on 'reflexive' and 'reasoning' information processing cycles and their interactions, constituted within the broader conceptual frames of dual-process theory in general and social cognitive neuroscience (SCNS) in particular.[12] Reynolds (2006) posits reflexive pattern matching of the array of cues that comprise a moral dilemma (which may be familiar or unfamiliar) against previously formulated prototypes (images in a variety of sensory modalities) which are stored in the X-system (i.e., refle_x_ive) (see Lieberman, Jarcho, & Satpute, 2004). If automatic search yields a match, intuitive reflexive processing ensues; if automatic search fails to yield a match abstract decision rules are effortfully applied by the C-system (i.e., refle_c_tive) in order to determine behavior. For example, ethical prototypes are 'compiled' for bribery, fraud, lying, and sexual harassment as a result of experiences which not only include intuitive normative evaluations (e.g., 'bribery is wrong') and an associated rapid, involuntary, affective reaction to bribery (e.g., repugnance), but also more consciously controlled and deliberative recommendations that guide behavior (e.g., 'bribery must be resisted') (Regan, 2007). The C-system's rule-based analysis and active judgment has the potential to intervene, exercise executive control over, and "micromanage" the X-system (Reynolds, 2006: 740) in a process of higher-order conscious reasoning (Epstein referred to this as "a conflict between the head and the heart," Epstein, 1994: 710) and learning. The C-system, as well as providing a degree of overall control, also 'feeds' the latter with prototypes built-up through exposure, experience, and learning in specific socio-cultural complexes: in Aristotelian terms this is the development of well-practiced and well-cultivated traits that support moral behavior but which may nonetheless have the potential to be based on the "wrong kind of role models" and the "wrong kinds of desires, ideas and behavior" (Solomon, 2003: 49).

From the behavioral perspective more generally such prototypes are the basis for the intuitive expertise (Kahneman & Klein, 2009) that manifests as a result of explicit and implicit learning and of which moral judgment is but one type. Paralleling this, MacIntyre drew our attention to different kinds of _phronēsis_: a person may have 'unerring' (i.e., expert) judgment in one area, but be notably lacking in another area, the sources of the difference being experience and "the degree to which she or he has been attentive to [i.e., learned] what is specific to each kind of experience" (MacIntyre, 2009: 149). _Moral instruction_ may begin in the classroom (e.g., using cases and vignettes to elicit intuitive moral reactions, see Haidt, 2001) however _moral learning_ is situated and crafted to its finest expression in the social arenas of practice (Moore, 2002).

5. SOCIALLY SITUATED ASPECTS OF MORALITY

Moral sense, individual virtues, and integrity are nourished by 'the community,' and both the individual and the collective have moral agency; any claim to the contrary is a "dangerous myth" (Solomon, 2004a: 1026). MacIntyre noted that "the self has to find its moral identity through its membership of communities" (1981: 205), therefore in order to understand individual moral sense it is necessary to consider not only the biology and psychology of virtue, but also the relevant features of the

institutions and social structures (such as business organizations) and communities in which moral agency is executed and moral identity formed, the moral commitment of others, and the co-evolution of individual and organizational moral values within relevant institutional frameworks (Weaver, 2006). From the biological and behavioral stance, although intuition is argued to be the 'default setting' for moral judgment (Haidt, 2004), reasoning in private or public dialogues is called for and called upon when "intuitions conflict" or when the social situation "demands thorough examination" of the facets of a moral dilemma (Haidt, 2001: 820). The biological bases of the moral modules exist independently of the institutional framework; their manifestation in moral agency is mediated through the processes of moral cognition and moral metacognition (Figure 1), which take place within social structures and/or institutional frameworks. But the latter are not a *gestalt*, instead they imply a plurality of roles, i.e., when a manager "shifts from the sphere of the family to that of the corporation he or she necessarily shifts moral perspective" (MacIntyre, 1979, cited in Moore, 2005: 242).

MacIntyre coined the term 'compartmentalization' to refer to distinct spheres of social activity each having their own role structure and norms that exist relatively independently of those in other compartments of the social order (e.g., roles of manager, parent, or citizen) and which "dictate which kinds of consideration are to be treated as relevant to decision making and which are to be excluded" (MacIntyre, 1999b: 322). A negative consequence of this compartmentalization is a 'divided self' devoid of moral conflicts and tensions whose practical reasoning is restricted and ultimately terminated by active refusal when a moral dilemma directs one beyond one's current socially approved role entailing also an active rebuttal of the moral sense. For MacIntyre individuals are responsible co-authors of their own active refusals and denials to 'know what they do not know' and thereby stand "guilty" (MacIntyre, 1999b: 329), moreover in doing so they condemn themselves to be diminished as moral agents incapable of recognizing and transcending compartmentalization of roles and responsibilities, or of displaying either integrity or constancy. Such active refusals, commensurate with publically or socially approved roles, may counter a biologically-based moral sense which gives "the impulse to some of [mankind's] best actions; but his actions are in a higher degree determined by the expressed wishes and judgment of his fellow men, and unfortunately by his own strong selfish desires" (Darwin, 1879/2004: 133). Active refusals and active rebuttals constitute a diminishing of moral agency.

The excellences associated with the 'craft' of a community of practitioners are internal to those practices (Beadle & Moore, 2006) but they are shaped (either for good or for bad) in the context of institutional frameworks and socially approved roles (MacIntyre, 1999b). The latter may have a corrupting effect on excellence and "the internal goods thereby obtainable" (Moore & Beadle, 2006: 374), be counter to the biological bases of morality, and be more or less severe under different sets of circumstances (Nielsen, 2006). Individual and organizational moral character and collective mastery of the virtues resides in the reciprocal and reflexive relationship between individuals and institutions, and between intellect and instinct (moral sense).

Figure 2 illustrates virtuous agency (Moore & Beadle, 2006) as *telos* from the multiple perspectives of biology, cognition, communities, social structures, and institutions.
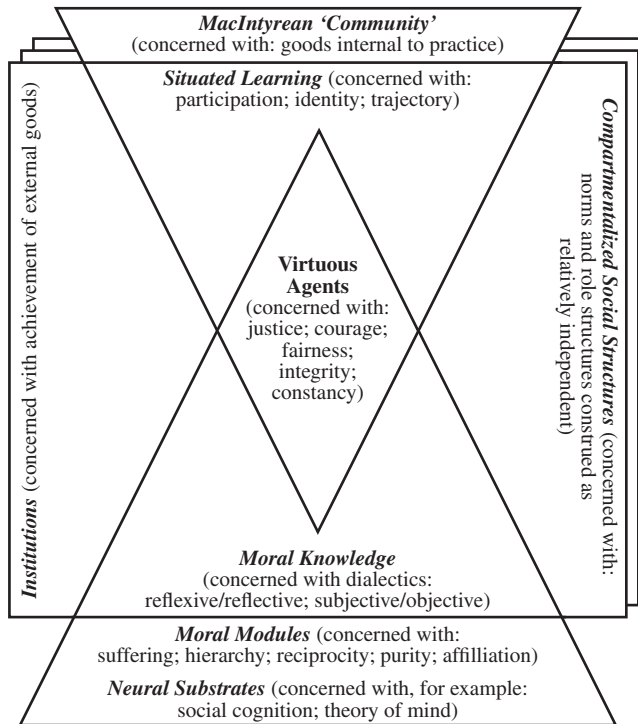

Figure 2. Virtuous agency as *telos* from the perspectives of biology, cognition, community, social structures, and institutions (after Moore, 2002: 21; Moore & Beadle, 2006: 372, 373).

Intellectual and moral excellence is attained through the mastery of the internal goods of a practice (MacIntyre, 1985) and contributes to the greater good of the *polis*, hence excellences are situated within a practiced-based community (which from a MacIntyrean perspective would encompass discharging roles and functions as members of communities, such as a string quartet or a fishing crew, see MacIntyre, 1985). MacIntyre viewed practice as "any coherent and complex form of socially established human activity through which goods internal to that form of activity are realized" (MacIntyre, 1985: 187). The realization and habituation of moral virtue depends upon the proper shaping (i.e., recognition, refinement and habituation, see Figure 1) of moral sense *within* a community (Rooney & McKenna, 2008). This position is commensurable with the situated perspective (Lave & Wenger, 1991) in which learning is viewed as woven *within* the fabric of the context within which it occurs, shaped by the context, and its norms, codes, and conventions. Lave and Wenger defined a community of practice as

> a set of relations among persons, activity and the world, over time and in relation with other tangential and overlapping communities of practice. A community of practice is an intrinsic condition for the existence of knowledge, not least because it provides the inter-pretive support necessary for making sense of its heritage. (Lave and Wenger 1991: 98)

The above warrants comparison with MacIntyre's description of practice:

> Any coherent and complex form of socially established human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity, with the result that human powers to achieve excellence, and human conceptions of the ends and goods involved, are systematically extended. (MacIntyre 1985: 187)

Competition is neither alien to nor incommensurable with either perspective. In MacIntyre (1985) competition entails excelling to the mutual benefit of all members of the community engaged in the practice (Moore, 2002). Excelling in the practices of the community improves the shared repertoire of knowledge and skills distributed amongst members of the community through participation and learning thereby increasing the competitiveness of the group.[13]

Within a community the formation of moral character is constant and on-going, it is a state of "constant becoming," and an object of constant re-negotiation with and in relation to ourselves and others (see Wenger, 1998: 154). For example, I reinterpret Wenger's example of the hospital doctor in the domain of business ethics thus:

For a manager, making decisions that do justice to her moral identity and the bottom-line demands of her organization is not "simply a matter of making discrete decisions" (Wenger, 1998: 160), she must find a moral identity that can reconcile the sometimes conflicting and competing demands of the moral instinct, accountability to herself (i.e., as a moral agent), to her community of practice (e.g., the internal goods of the management team), her organization (e.g., the external goods), and "the wider macro-social institutional frameworks in which these are set" (ibid.) into a moral "way of being in the world" (ibid.).

Wenger singled out the work of reconciliation (a dialectic) as being the most significant challenge faced by those learning any craft (e.g., management), similarly becoming a virtuous agent occurs by negotiation and reconciliation across decisions and domains (integrity and constancy of innate moral sense serves as an ethical 'centre of gravity' or 'moral compass') and across time (from being a less virtuous to more virtuous agent) within the limits proscribed by morality's intuitive foundations and against a backcloth of multiple and shifting institutional frameworks (see Figure 2). In this respect Wenger paralleled MacIntyre's compartmentalization view of contemporary social life:

> [A] theatre with a set of adjoining stages upon which a number of very different moral philosophical dramas are being acted out, the actors being required to switch from stage to stage, from character to character, often with astonishing rapidity. (MacIntyre, 1979: 127–28)

Moore has drawn our attention to an outcome of this: the creation of more than one self, with the potential for the individual moral agent to fashion (or fabricate) more than one distinct character, and the possibility of an institution with an appetite for the avaricious pursuit of external goods such as money, status, or power "forcing a deep division within the character of the individual" (Moore, 2005: 243).

MacIntyre argued recently (i.e., post-'credit crunch') that the skills of 'money men' (e.g., derivatives traders) who are guided solely by external goods are inimical to the virtues, but was unsurprised by this given that the financial sector is an environment of 'bad character' (Cornwell, 2010)

Integrity and constancy are meta-virtues in this regard: integrity requires refusal to be one kind of person in one context and a quite different one in another; constancy extends integrity by requiring a commitment to the goods over an extended period of time (and not be distracted by the requirements of different social contexts or institutional frameworks) and the habituation of proper intuitive moral responses to ethically-charged events (MacIntyre, 1999b; Moore, 2005). Moore sees the virtues not as ends in themselves but as the means for an individual to achieve the ends of their *telos* (something not yet 'adequately characterized' partly known but partly unknown, and essentially existential), perhaps a place that individuals arrive at "somewhere around early middle age before they can even conceive of these notions" (Moore, 2005: 246). The trajectory of the emergence of a virtuous self may be likened to the notion of a 'unity' (in Jungian terms a move toward 'individuation' through resolution of dialectics) conceived and evaluated whole, as a narrative in relation to the moral relationship one has with one's intuitive and rational self and with others, and with an awareness of where the narrative is headed (Moore, 2005). For MacIntyreans *moral learning* and the quest for the good involves encounters with various "harms, dangers, temptations, and distractions" (MacIntyre, 1981: 204) along the way and the overcoming of these by the exercising of the virtues which provide a bulwark against tendencies to avarice (Moore, 2005). Moral learning is metacognitive[14] to the extent that it involves second-order processes invoked by an individual to monitor, reflect on and make sense of first-order moral intuitions (Hartman, 2004; Tappan, 1990) and thereby 'know ourselves' (see Cosmides & Tooby, 2004).

6. MORAL LEARNING AND MORAL METACOGNITION

Becoming a virtuous agent (Beadle & Moore, 2006) is founded in an innate moral sense, e.g., automatically evoked moral responses to compassion/suffering, hierarchy, reciprocity, purity, and affiliation (Haidt & Joseph, 2004), with the strong caveat that behaviors based on intuitive moral judgments are not of necessity virtuous (e.g., when intuitive and well-practiced well-practised virtues such as obedience are confronted by unpracticed situations, Solomon, 2003).[15] But *becoming virtuous* is not automatic; it is the result of practice and habituation through the interplay of the 'hot' reflexive operations of System 1 (intuition and affect) and the 'cold' reflective operations of System 2 (analysis and reason). Moreover human beings—unique amongst the social animals—are endowed with a capacity for spoken and written language and a capability to articulate, reflect on, interpret and make sense of the operations and outputs of conscious and non-conscious cognitions. The development of moral character is a cognitive and metacognitive moral learning project in the pursuit of the practical refinement of the moral sense, rather than a normative ethical educational project seeking intellectual resolution of generalized or abstract moral questions (i.e., moral instruction may be a prerequisite for moral learning but

it cannot substitute for it). If this stance has a normative dimension, it is this: managers and leaders should aspire towards and takes steps to possess a self-knowledge concerning the cognitive, conative, and affective processes of mind as they pertain to their own intuitive moral responses to the ethical challenges and dilemmas they face; hence a central element of business leaders' and managers' moral education and training should be a virtue-based moral metacognition.

How might this be achieved? Briefly, the 'five foundations' or Moral Foundations Theory (MFT) (Haidt & Graham, 2007; Haidt & Joseph, 2004) provides a scientific basis for the further development of an intuitive ethics curriculum. In the classroom business ethics cases could be written based on the kinds of examples cited in Table 2 incorporating relevant stimuli (e.g., visual, aural, olfactory, narrative, metaphorical) to evoke affective responses (i.e., moral intuitions) and analyzed both objectively (in terms of *telos*, internal and external goods, and of compassion/suffering, hierarchy, reciprocity, purity, and affiliation) and subjectively (in terms of evoked affective moral responses). Beyond the classroom, in the arena of practice, moral actors refine their objective and subjective moral knowledge both by reflecting *in* moral action (i.e., responding and reasoning in real-time in the midst of a moral dilemma; see Schön, 1983) and reflecting *on* moral action (e.g., by recalling puzzling or perplexing features of a moral dilemma, reflecting on and questioning the events as they appear to have unfolded, questioning one's feelings, assumptions, thoughts and actions, and generating new prototypes). In doing so employees may be enabled and thereby empowered to re-conceptualize (through recognition, refinement and habituations) what their acknowledged feelings ('hot' cognitions), thoughts ('cold' cognitions), and actions are or were in situations where they may be or have been called upon to be moral agents, moreover in doing so they may come to challenge and overcome institutionally- or socially-derived threats to integrity and constancy (see Moore, 2005).

As noted above, experience and reflective inquiry in general has the potential to build good judgment and intuitive expertise (Sadler-Smith & Shefy, 2004; Simon, 1987). Intuitive experts in a given domain (e.g., morality) likely to have more and better-organized moral knowledge structures than novices, show greater situation awareness, and possess more complex and automated procedures for solving complex moral problems quickly (Lapsley & Hill, 2008). In the classical Aristotelian/Darwinian tradition, and from the moral metacognition perspective, the development of moral goodness is a process of becoming more expert in the exercising of the moral senses (to which we are predisposed biologically) through reflection and reason. Properly-refined these innate moral dispositions become 'frozen into habit' through repeated experience, practice, correction of errors, instruction, role modeling, coaching, feedback, and reflection in and on moral actions in a given domain across multiple situations, collectively, and over time. However, given that the number of possible moral decisions and dilemmas is infinite, the virtues always have the potential to be unpracticed (see Solomon, 2004a) and hence deployed unskillfully, i.e., without 'craftsmanship' (Moore, 2005) thereby rendering moral learning and moral metacognition lifelong projects in *becoming* virtuous.

CONCLUSION

Employees who exhibit virtuous agency have learned the practical wisdom to be able to navigate "complex situations where incompatible principles compete" (Hartman, 1996: 65), and also reconcile tensions where the 'head' and the 'heart' conflict. The habituation of proper intuitive moral responses through self-reflective moral learning has the potential to endow managers with the ability to see business situations holistically and quickly "grasp their relevant features and to anticipate the moral, social and financial implications of decisions" (Roca, 2007). Intuitive moral responses are neither good nor bad *per se*: organizations need well-honed, non-conscious reflexive moral intuitions, but they also need to "blunt the impact of others" by encouraging more conscious reflective moral reasoning (Regan, 2007: 985) founded upon a moral metacognition. The fact that the human brain is designed in such a way as to predispose *Homo sapiens* to respond to ethical dilemmas intuitively and in particular ways (Haidt & Joseph, 2004) and that biologically-based virtues can be crafted in the arena of practice suggests that if members of business organizations can be educated as to the biological realities of their moral cognitions "fewer constraints [e.g., rules or codes] will be needed at higher levels" in business organizations (Lawrence, 2004: 75). The ethical climate of institutions and organizations can create venues of virtue or of vice for us all: with respect to the moral threat of vice, convention can be resistant to change, reinforce dominant discourses, compartmentalize morality, and be counter to the "root that contains the very systems by which we are able to respond to our ailing world—the biology of our brains" (van Wensveen, 2005: 188). Good business requires an informed intuitive moral awareness and a well-practiced moral agency situated within the intellectual and moral excellences of a community of practice wherein it is permissible to question and reject common knowledge and received wisdom, transcend the taken-for-granted (Rooney & McKenna, 2008), and protect against collective 'bad side' hazards such as the "forced sacrifice of livelihood or dignity in pursuit of organizational goals" (Snell, 2001: 323). Educational programs can provide instruction in the foundations of objective moral knowledge, but organizations themselves are the only venues where a subjective, i.e., personal, moral sense for good business may be honed, exercised, and practiced authentically. The discourses that are the fabric of mutual engagement in communities of practitioners can habituate virtue or they may hinder its refinement. Dominant discourses that set limits on collective moral character stand to be challenged and may be exposed through reflexive and reflective moral reasonings (Reynolds, 2006; Rooney & McKenna, 2008). Without collectively exercised virtues, practices and practitioners may be unable to resist the potentially "corrupting power of institutions" (MacIntyre, 1985: 194). Taken to its extreme the instrumentality of the institution may cleave the individual from her or his intuitive evolved moral nature *before virtue* has the opportunity to reveal itself.

NOTES

1.   According to Midgley in her critique of 'pseudo-Darwinists,' E. O. Wilson has "quite ceased to preach socio-biology, and finds this idea [i.e., moral sense] extremely interesting and is now developing it" (Midgley, 2010a: 39).

2.   Insofar as philosophy and the psychology of moral reasoning is concerned Kant's influence is seminal to the Kohlbergian moral reasoning approach which aimed to help learners move progressively through stages (cf. Piaget) of moral reasoning by presenting them with increasingly complex moral dilemmas thereby fostering moral development (Graham, Haidt, & Rimm-Kaufman, 2008).

3.   These connections are however not undisputed, see Blasi (1990) for a critical account of the relationship between moral philosophy and psychology.

4.   'Proper' in this sense refers to the set of problems that an adaptation evolved to solve (i.e., in the ancestral environment); 'actual' refers to the set of problems that the adaption is currently concerned with (i.e., business organizations).

5.   See Blanchard (2009) and Sutherland and Hughes (2000) for a critique of Arnhart (1998).

6.   Group size and brain size are strongly positively associated in living primates (Dunbar, 1992; Mithen, 1996).

7.   Universal moral grammars (UMGs) provide an analogue for Chomskyan linguistic grammars (see Mikhail, 2007).

8.   The Pleistocene began approximately 2.6 million years ago and ended 12,000 years ago, it was characterised by repeated glacial cycles, the most recent of which began approximately 70,000 years ago and ended 15,000 years ago.

9.   As Pinker noted in relation to the trolley problem and its variants: "A person who is capable of heaving a struggling man over a bridge . . . is probably capable of other horrific acts that lack a redeeming reduction in the body count" (Pinker, 2007: 231).

10.   'Theory of mind' (ToM) enables an individual to "attribute independent metal states to self and others in order to explain and predict behavior" (Frith & Happé, 1994: 116). Lieberman argued that the "sense of experiencing other minds appears to recruit brain regions more closely tied with automatic and affective processes" (Lieberman, 2007: 265) and that lateral temporal cortex in particular supports automatic and non-reflective aspects of ToM (Lieberman, 2009: 21).

11.   The sense in which the term 'intuition' is used in this article differs from 'Kantian intuitionism': in the former it is an "affectively charged judgement that arises through rapid, non-conscious and holistic associations" (Dane & Pratt, 2007: 40); latter is an intuitionism that appeals to "ethical standards that thoughtful, educated people, find intuitive" (Arnold, Audi, & Zwolinski, 2010: 566).

12.   De Schrijver (2009), however, noted apparent discrepancies between the evolutionary psychology (EP) account of morality and the CNS account: the former is concerned with the role of more or less independent and innate brain systems (modules), whereas in the latter a stronger emphasis is placed on cognition and the importance of learning processes. De Schrijver concluded that these apparent discrepancies are attributable merely to the different perspectives, i.e., "either zoomed out" (i.e., EP's account) or "zoomed in" (CNS's account) adopted by each (Verplaeste, Braeckman, & De Schrijver, 2009: 39).

13.   MacIntyre's 'practice-based community' is distinct from Lave and Wenger's 'community of practice.' MacIntyre has engaged directly with the corrupting power of business organization on practice to the extent that "'much modem industrial productive and service work is organised so as to exclude the features distinctive of a practice' and in such a way that this type of economic activity is 'at once alien and antagonistic to practices'" (cited in Moore, 2005: 241). Lave and Wenger did not concern themselves with any such 'corrupting power' in the MacIntyrean sense.

14.   Metacognition was defined by Flavell (1976: 232) as "knowledge concerning one's own cognitive processes or anything related to them, e.g., learning-relevant properties of information or data."

15.   As Regan (2007) noted: "How we are is not necessarily how we would like to be. Indeed morality can be seen as an effort to bridge the gap. . . . [A]side from the pitfalls of the naturalistic fallacy, those [innate] tendencies may have emerged and played a role at a stage in human evolution far different from our current circumstances" (Regan, 2007: 945). Nonetheless, even if we are not compelled to follow our moral instinct, we are well-advised to understand it.

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