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Biology and Ethics: A Case for Aristotle's Theory of Moral Habituation

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Abstract

Prior to evolutionary biology, ethics, as a theoretical discipline, was essentially confined to philosophy, where it aimed to analyse the content of morality and what it required of humans. Albeit, in The Descent of Man and Selection in Relation to Sex (1871), Charles Darwin redefined morality to be an innate biological trait, which is inherent in the human biological constitution, thereby opening the way for the 'biologicization' of ethics.

However, the Darwinian approach projected mere elaborate descriptions of the underlying biological mechanisms of moral behaviour as ethics, thereby sidelining the core normative concerns of traditional ethics. In reducing morality to a mere biological instinct—a spontaneous outburst that requires little human striving—it logically voided the notions of moral culpability, blameworthiness, and approbation. Moreover, the biological approach consigned habit and the intellect to the primordial past, suggesting that these faculties are of secondary importance in the moral behaviour of subsequent human generations. This resulted in a 'closed habituation' model, which is also logically inadequate for dealing with the notions of human freedom and moral responsibility.

This paper is an attempt to resolve these shortfalls, using Aristotle's theory of moral habituation as bench mark. The paper proposed a broad theoretical model which reincorporated the sidelined concerns of traditional ethics and, therefore, demonstrated that traditional moral philosophy could not be rendered obsolete by the incursion of biology into ethics, as contemporary evolutionary theorists of ethics have claimed.

Key words: Aristotle; Biologicized ethics; Evolution; Morality; Habituation

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INTRODUCTION

In *The Descent of Man* (1871), Charles Darwin argued that morality was an adaptive trait or habit that enabled the primordial ancestors of humans to survive in otherwise hostile environments. These ancestors were successful in the struggle for existence because they evolved 'social instincts' and, therefore, cooperated and acted altruistically toward one another. These sentiments were then passed down to subsequent human generations, and so manifest today as morality. Those who lacked these virtues became extinct. However, Darwin viewed moral action as entirely instinct-driven. Although 'sufficient intellect' was needed for moral evolution, but once this happened, the moral sense became entirely self-propelling and no longer had a need for the intellect (Allhoff, 2003).

Thus, the biological account apparently renders illogical the continued roles of habit and reason in the moral behaviour of subsequent human generations, because it depicts human moral nature both as an instinct and as something that has been pre-established, for all time, in the primordial environment. This suggests that the primordial ancestors of modern humans have undergone (on their behalf) all the exertion that morality requires. Consequently, their descendants need only to automatically exhibit this morality, whenever necessary, by simply falling back on their repertoire of inherited biological instincts.

Following Darwin, there has been a concerted effort in Western scholarship, especially in the last four decades, to incorporate evolutionary considerations into our understanding of a wide range of phenomena, across several disciplines. This alliance has not gone down well with moral philosophy, wherein biologists, apparently convinced that their discipline is set apart from philosophy and for fear of the 'naturalistic fallacy', have consistently called for the 'biologicization' of ethics; that is, the replacement of traditional ethics with mere descriptions and explanations of the evolutionary origins, as well as the underlying biological mechanisms, of moral behaviour.

But to what extent does the notion that morality may have a biological facet render traditional ethics obsolete? Are the elaborate explanations of the biological mechanisms of moral behaviour given by evolutionary biology all that ethics demands? Using Aristotle's theory of 'habituation' to resolve the shortcomings in the biological account, therefore, this paper attempts to demonstrate that moral philosophy, far from being rendered irrelevant by the biological approach, actually enriches it, contrary to a widely held belief in contemporary Western ethical inquiry.

ON THE ALLEGED IRRELEVANCE OF PHILOSOPHY TO CONTEMPORARY ETHICS

Edward O. Wilson, the 'grandfather' of sociobiology, in his epoch-making book, *Sociobiology: The New Synthesis* (1975), claimed that 'the time has come for ethics to be removed temporarily from the hands of the philosophers and biologicized' (p.562). Similar sentiments were also expressed by Frans de Waal (1996), a frontline primatologist, who urged that science 'wrest morality from the hands of philosophers' (p.218). The eminent British biologist, Richard Dawkins, begins his famed book, *The Selfish Gene* (2006), by remonstrating with philosophers for doing ethics 'almost as if Darwin had never lived' (p.1). For him, *all* foregoing attempts to answer the question of human nature before Darwin are 'worthless, and … we will be better off if we ignore them completely' (*ibid.*). Thus, for these biologists, ethical inquiry needs to be redefined, after Darwin, as the natural history of animals, including humans.

Going on, Wilson (1975) defined his project as 'the systematic study of the biological basis of all social behavior', including human moral behaviour (p.24). He also decried the fact that sociology, traditionally conceived, 'attempts to explain human behavior primarily by empirical description of the outermost phenotypes and by unaided intuition, without reference to evolutionary explanations in the true genetic sense' (*ibid.*). He then called for the social sciences and the humanities to be streamlined into his 'Modern Synthesis', by which he meant that they be, as Philip Kitcher (2006) would later aptly put it, 'biologicized'. All this clearly suggests that, for Wilson, biology is the one true basis in the light of which all social behaviour, including human moral behaviour, must be discoursed or interpreted; any other attempt that is not decidedly biological or evolutional, would, *ab initio*, be unacceptable.

Needles to say, some notable philosophers are also involved in this celebration of the intervention of the evolutionary account of human nature. Peter Singer (1982), for instance, extols the sociobiologists, including Wilson, Dawkins, and David Barash, for being more knowledgeable about genes than everyone else who lived before them, noting that the foregoing discussions of human nature did not include considerations about genes. For this reason, Singer continues:

> … the efforts of Plato, Aristotle, Aquinas, Hobbes, Hume, Rousseau, Kant, Hegel, Marx, and all the other great figures of the past to achieve this understanding have been build on ignorance (p.40).

Daniel Dennett also shares the same persuasion. In his foreword to Ruth Garrett Millikan's *Language, Thought and Other Biological Categories*, (1984) contended that:

> One of the happiest trends in philosophy in the last twenty years has been its Naturalization: since we human beings are a part of nature ... philosophical accounts of our minds, our knowledge, our language must in the end be continuous with, and harmonious with, the natural sciences.

For Dennett (1995), this biologicization process is highly necessary because philosophers have laboured on ethics since Plato 'so far without achieving anything approaching consensus' (p.494). One reason for this quest to naturalize ethics is the seeming triumph of science over other fields of inquiry—the principle that 'It is *only* as a result of scientific investigation that we ever … reach an intellectual consensus about controversial matters' (Armstrong, 2007, p.295). The assumption is, as Merrill Ring (2006) put it, 'that science holds the high ground and philosophers, whatever their projects, are those who must do the adapting, in order to achieve the requisite harmony' (par.30).

In line with Wilson's argument for a purely biology-based ethics, Michael Ruse (1986) even went further to propose that ethical inquiry be reduced to mere causal explanations of human moral beliefs and practices, in the manner of typically found in evolutionary biology:

> Ultimately, there is no reasoned justification for ethics in the sense of foundations to which one can appeal in reasoned argument. All one can offer is a causal argument [i.e. explanation] to show why we hold ethical beliefs. But once such argument is offered, we can see that this is all that is needed (p.102).

Elsewhere, Ruse and Wilson (2006) stated unequivocally that 'the time has come to turn moral philosophy into an applied science because … 100 years without Darwin is enough' (p.555). They claimed to have conceived of a scientific ethics that will supersede

mankind's misplaced faith in 'imagined rulers in the realms of the supernatural and the eternal' (p.567). In *The Myth of Morality* (2001), Richard Joyce claims that humans evolved with a strong propensity, not just for good moral behaviour, but also for making moral judgments. But, strictly speaking, such judgments are baseless because what we primarily do is 'invest the world with values that it does not contain, demands which it does not make' (p.135). Substantively, Joyce's thesis is that morality is innate to humans; that is 'we naturally act in ways that are morally laudable—[because] the process of evolution has designed us to be social, friendly, benevolent, fair, and so on' (2006, p.3).

If all this is so, then, apparently, the suggestion would be that moral philosophy, in its traditional normative approach to ethical inquiry, ceases to be of further relevance. Thus, even prior to Joyce's insinuations above, Robert J. Richards (1986) had, again, submitted that human morality had a biological necessity to it, as 'an unavoidable condition produced by evolution' (p. 289). As such, it can only be expected that humans would automatically elicit the appropriate moral responses in and around their environment by acting for the community good.

In his *Hardwired Behavior* (2005), Laurence R. Tancredi is even more forthcoming. He conflates morality and the workings of the brain, basically arguing that moral inquiry would do well to focus on the limbic structures of the human brain. The brain is the seat of consciousness and the emotions; thus, 'without the brain, there would be no concept of morality' (p.ix). Again, in Tancredi's estimation, there is a biological necessity to human moral behaviour: the human brain was "hardwired" (i.e., genetically programmed) to be morally responsive from the evolutionary past. Knowledge of the underlying mechanisms of moral behaviour would, thus, enable neuroscience 'intervene at the most fundamental biological levels to affect moral development' (p.2). Through such 'biologically engineered' morality, it would be possible to resolve the ethical problems that traditional moral philosophy and our already existing religio-cultural moral institutions have been struggling to resolve.

From the foregoing brief review, it is clear that the 'biologicization' of ethics is the attempt to resolve ethical problems by appealing to evolutionary biology. In the extreme, it means, as Wilson and the others have urged, replacing traditional ethics with whatever evolutionary biology purportedly says about human nature. This comes from the suspicion, or assumption, that traditional moral inquiry may no longer be a worthwhile enterprise at this point in time. Summarily, Philip Kitcher (2006) delineates four shapes which the project of the biologicization of ethics has assumed, from its inception:

> (a) 'Biologicization' as the evolutionary explanation of the origin of morality, i.e., origin of ethical concepts, judgments, and principles;
> (b) 'Biologicization' of ethics as the evolutionary clarification of facts about humans that can help – in conjunction with already existing and accepted moral principles – in deriving normative principles that are not yet appreciated;
> (c) 'Biologicization' of ethics as the evolutionary approach to the problem of objectivity of ethics, i.e., evolutionary approach to meta-ethics;
> (d) 'Biologicization' of ethics as the evolutionary attempt at formulating entirely new fundamental normative principles – not just revising already accepted ones as in option (b) (p. 576).

ARISTOTLE AND THE IDEA OF 'HABITUATION'

Be that as it may, effort to chart a naturalistic course for ethics and morality dates back, at least, as far as Aristotle, in ancient Greek philosophy (Punnett 1912). Aristotle opens the Book II of the *Nicomachean Ethics*[1] with the automatic assertion that 'none of the moral virtues is engendered in us by nature, for no natural property can be altered by habit' (i, 2). But if moral virtues are not a natural property, what are they? Aristotle's answer is that 'moral or ethical virtue is a product of habit, and has indeed derived its name, with a slight variation of form, from that word' (*ibid.*, i, 1). This reply seems contradictory; for if no natural property can be altered by habit, then, it seems that anything habit can alter is not a natural property. Hence, Aristotle's apparent dilemma may be syllogistically illustrated as follows:

> Premise 1: 'No natural property can be altered by habit'.
> Premise 2: 'Moral or ethical virtue is a product of habit'.
> Conclusion**:** Therefore, moral or ethical virtue is not a natural property.

As with every deductively valid argument, the premises (1 and 2) must entail the conclusion. But, as we said earlier, Aristotle's ethics is naturalistic; nowhere in the text does he appeal to the supernatural, as Plato's Euthyphro, for instance, did (See Johnson, 1989). So, we have a problem.

Perhaps, one way out of the impasse is to consider the above a possible misinterpretation of Aristotle. One can, for instance, study more closely the key terms, 'natural property' and 'engendered by nature' in the text. Perhaps, it is incorrect to regard 'altered by habit' as being equivalent in meaning to 'product of habit', as the syllogism above suggests. Consider, for example, the analogy Aristotle draws with stone and fire:

> … [I]t is the nature of a stone to move downwards, and it cannot be trained to move upwards, even though you should try to train it to do so by throwing it up into the air ten thousand times; nor can fire be trained to move downwards, nor can anything

[1] To avoid undue repetition, all references to the *Nicomachean Ethics* are, in fact, from Book II. The Roman numerals, thus, represent the section of Book II being referred to, while the Arabic numerals are the subsections.

> else that naturally behaves in one way be trained into a habit of behaving in another way (i, 1).

Aristotle's conception of 'natural property', then, is two-pronged: one is the sense of 'natural' that refers to how phenomena invariably behave, or the unchangeable physical properties of natural substances. An example is the response of bodies to gravitational pull, in the absence of a counter-force. Of course, it could not be in this deterministic sense of 'natural' that moral virtue is a natural property. Thus, Aristotle's second conception of 'natural property' may be deduced from the central idea that humans are naturally able to imbibe the right moral habits and dispositions (i, 5). The theses that morality is innate to humans and that, as a matter of biological necessity, 'evolution has designed us to be social, friendly, benevolent, fair, and so on' (Joyce, 2006, p.3), entails some sort of biological determinism because it implies that we are incurably inclined to good moral behaviour from birth. Aristotle's way of getting around this central problem of determinism is to allow that good moral conduct and disposition, rather than happening mechanically or being merely biologically constituted in humans, be actualized through the process of habituation. He explains his position:

> The virtues therefore, are engendered in us neither by nature nor yet in violation of nature; nature gives us the capacity to receive them, and this capacity is brought to maturity by habit (i, 3).

For Aristotle, basically, morality would be natural to humans only in the sense that human nature has the capacity, through training and habit, to actualize its biologically constituted moral potentials. To this extent, Aristotle would, on the other hand, disagree with some philosophers, such as Thomas Hobbes (1960), who portrayed human nature as entirely selfish, and maintained that even the establishment of the social contract or commonwealth itself was driven by selfish motives. For Aristotle, as we have seen, to say that morality is not engendered in humans by nature does not automatically imply that it must be engendered by supernatural forces, nor that humans are naturally immoral. Rather, it means simply that humans have the capacity to lapse into immoral tendencies if efforts are not made to keep their desires in check—a factor which left a deep theoretical gap in the biological theory of ethics and morality.

What Aristotle apparently means by 'habit' is, perhaps, equally conveyed by the concept, 'character' (Watt, 1996, p. xiii). Character represents the more easily noticed aspect of habit. When a behavioural tendency has been consistently adopted or cultivated, it becomes a habit. If this habit is not hindered, it evolves into a character, as a distinguishing attribute or feature of the individual in whom it resides. Character, therefore, includes the complex of mental and ethical traits that define a person, or a group. One implication of this is that character is not something hidden, or covered, except perhaps, superficially. Similarly, morality is not something that simply lies in humans in form of the supposed 'innate morality'; it is essentially communicated. Another implication is that, like reputation, character is not something a person assumes abruptly. Rather, it is gradually acquired or developed. Similarly, our reference to a person as good or bad is based on a character trait they have developed over time.

Aristotle quickly moves on to this crucial observation:

> As then our present study, unlike the other branches of philosophy, has a practical aim (for we are not investigating the nature of virtue for the sake of knowing what it is, but in order that we may become good, without which result our investigation would be of no use), we have consequently to carry our enquiry into the region of conduct, and to ask how we are to act rightly (ii, 1).

Biologicized ethics focuses, rather narrowly, on the biological origins and/or mechanisms of moral behaviour in utter neglect of the *practical* issue of how humans—as beings in society—need to conduct themselves. In the biological approach, one typically finds elaborate explanations and descriptions of the biological mechanisms or processes of human morality. Michael Ruse (1986), as we saw above, argued at length that ethical inquiry required only the construction of some evolutionary story—at the explanatory level of analysis—to show how and why humans developed a moral sense. Similarly, Laurence Tancredi (2005) maintained that brain biology is better poised to resolve the problems of traditional ethics than the already existing social moral systems. More precisely, by furnishing us with knowledge of how the physical brain creates and shapes our emotions and thinking, biology can intervene at a very fundamental level to effect proper moral development in humans and, perhaps, other animals. This will lead us to alter our traditional conceptions of morality, and enable us to realize that, under certain circumstances, the behaviours proscribed in the Ten Commandments, for instance, are not really transgressions per se, but may result from neurological disorder:

This understanding might suggest that under certain conditions 'immoral' behavior is not necessarily the product of willful acts. By controlling behavior, brain biology might be responsible for some of the extreme manifestations of these bad behaviors. In that case, some individual 'sins' may not be 'sins' at all (p.9).

Other areas of human inquiry may fundamentally aim to satisfy human intellectual curiosity; but ethics has a practical purpose: it is concerned with what people do, or should do. Aristotle went so far as to propose that the aim of ethical inquiry would be defeated if it did not, in the final analysis, make its student morally good (ii, 1). Biologicized ethicists rather presumed that explaining the evolutionary mechanisms of morality sufficed as ethics, and, perhaps, could make people behave well. It has even been suggested that an acquaintance with our biological

roots opens up a repository of biological codes which would guide our conduct (Kitcher 2006). However, it seems far from obvious that merely understanding the biological or evolutionary mechanisms behind moral behaviour suffices, in itself, to goad humans on to appropriate moral behaviour. Although knowing about the genetic basis of our moral nature may broaden and sharpen our understanding of our moral propensities, it is difficult to see exactly how that can motivate us to become morally good any more than can ignorance of our biological or genetic heritage motivate us to become bad.

Perhaps, biologicized ethicists simply assumed, on the other hand, that humans can be helped, through biological intervention, to overcome all forms of neurological disorders. Hence, chances are that immoral behaviour would then be controlled to a large extent, if not eradicated, in the same way advances in medical science enhance disease control and management. In the words of Oliver Curry (2005), the assumption here is 'that [since] genes are the units of selection … [then] under certain circumstances selfish genes will build selfless people' (p. 12). But even this consideration misses the whole point of ethical inquiry. Human conduct is immoral if, and only if, it results from intention and choice; in other words, if it is deliberate and free from every kind of neurological hindrance. People's behaviour is appraised as immoral primarily because there is a tacit understanding that these people are able to recognize, and do, what is right. Moral failure is a result, not of biological failure, but of other extra-biological factors such as weakness of will, ignorance, habit, misapplication of reason, or outright wickedness. Morality is something at which *only* biologically sound humans fail. Thus, it makes no sense to say that immoral behaviour is biologically remediable. If immoral behaviour were rooted merely in biology, then possessing a normal physiological constitution (such as a functional brain) would be sufficient for the automatic expression of the appropriate moral behavior, in all respects—which would, then, only culminate in one form of determinism or another. Therefore, for good moral behaviour to happen, humans must dispose themselves accordingly.

Even if brain biology could effortlessly discern that an apparently immoral behaviour had been caused by brain damage, the only consequential thing is that that particular behaviour would automatically lose its eligibility for moral appraisal. This obtains even in law: once it is established that a defendant was in an abnormal state of mind during an offence, the law tends to lose some of its enforceability in that particular circumstance, handing down a lighter sentence, if not outright acquittal. (Copi & Cohen, 1994) Thus, ethically, we not only disregard mentally disturbed people but are even surprised when their conduct coincides with morally appropriate behaviour. Ethics is, therefore, as Aristotle rightly argued, a theoretical discipline with an essentially practical purpose that lies beyond mere knowledge, and, certainly has little to do with the recommendation of appropriate treatment for neurological disorder.

Biologicized ethicists also tend to reject the idea of moral progress, which is inconsistent with their central thesis that evolution, being a matter of blind chance, is a random process that shoots out in all directions (Flew, 1967; Wilkins, 2006). More fundamentally, though, the idea of moral or ethical progress would be inconsistent with evolutionary ethics for another reason: to accept it would mean to jettison another fundamental thesis of the theory, namely that morality is a purely biological phenomenon which is innate to humans, and has no reference to any objective factor. Thus, acceptance of moral progress apparently implies that, biologically, before this progress happened, humans were in a state of moral stupor—suggesting that what makes humans moral may be externally located rather than biologically inward. The all-out biology-based manner of morality advocated by these theorists seems to make logical sense only if, from birth, humans were already able to exhibit about the same level of moral sophistication as in adulthood, such that there would be little need for moral development. Hence, the rejection of (moral) progress. Yet, if it is true that humans sometimes exhibit immoral tendencies, then ethical inquiry makes sense only if there is, at least, tacit acceptance also of the idea of moral progress; that is, the possibility that humans not only can improve the quality of their character and behaviour, but also do have a nature that is amenable to such improvement. Denial or rejection of ethical progress makes sense only in a hypothetical, or ideal, world where there is no such thing as immoral behaviour. In this regard, Matthew H. Nitecki (1994) comments:

> With rejection of progress, faith in the future was also given up. The belief in progress was based in large degree on the optimistic view of the future. Without progress, there was hardly any solution of ethical questions. The concept of ethics, including evolutionary ethics, was based on faith in a better world and in the belief that humans would act morally. But, implicitly, all of this was placed in question (p. 340).

The biological account does not allow the salient distinction between the possession of the biological components that make the exercise of proper moral behaviour possible, and the actual ability of humans to harness these biological potentials into proper moral behaviour. Aristotle overcomes this problem by introducing the two concepts of 'potency' and 'actuality':

> [T]he faculties given us by nature are bestowed on us first in a potential form; we exhibit their actual exercise afterwards (ii, 1).

Biological capability for morality is not equivalent to its harnessing. Aristotle's approach not only enables us to make this distinction, but also to do so in a way that proffers a more accurate, workable picture of human moral nature. Naturally, humans have the biological potentials for morality; through training and habituation, these potentials are actualized.

Aristotle uses an interesting contrast to further illustrate this thesis. Hearing and seeing are not acquired through repeated listening and looking. Because we had these faculties from birth, we began to use them automatically (*ibid.*, i, 8). As such, no practice or habit was needed. To what extent can this be said of morality? It seems that the virtues are acquired through repeated practice and training, which culminates in habitual performance of virtuous acts. Thus, a morally good person is one who at least makes effort to do the right thing, not one who has been programmed from birth to behave in certain mechanical ways, and certainly, not one who merely possesses the innate biological potentialities.

Good moral behaviour, like the arts, is facilitated by the acquisition of the requisite habit and skill. For example, a drummer drums with ease, and with little mistake, when he has attained expertise or excellence in drumming. This is exactly true of morality: we move closer to moral perfection by practicing and habituating the appropriate moral dispositions. But once we acquire the habit, it becomes easier to perform the moral action. This seems tautological: attaining moral excellence by having good moral dispositions; and practicing good moral dispositions (easily) by attaining moral excellence. But consider any of the virtues, say, self-control. We learn self-control by conscientiously disposing ourselves accordingly. Yet, we are best able (i.e., more easily disposed) to practice self-control when we have mastered the impulses that instigate rash conduct. This is true even with immoral behaviour. Most ordinary people are shocked when they discover that someone they thought they knew very well is steeped in one immoral behaviour or another, for instance, drug dealing or armed robbery. But once the shocked individual starts engaging in such practices himself, not only will he lose that initial sense of shock, he will develop a sense of ease with regard to such practices. Such is the power of habituation in morality: the ability to pull an agent in either direction, depending on what is pursued.

Although Aristotle is thoroughly persuaded that the study of ethics should have certain practical influences on human behaviour, he did not view morality as a matter of strict adherence to rules, as some later moral theorists, such as Immanuel Kant (1953) and J.S. Mill (1998), apparently did. Rather, what is to be done in each moral situation is a function of expediency and contextual suitability, as mediated and dictated by the perceived well-being of the concerned moral agents, proximate or remote:

> [M]atters of conduct and expediency have nothing fixed or invariable about them, any more than have matters of health. And if this is true of the general theory of ethics, still less is exact precision possible in dealing with particular cases of conduct; for these come under no science or professional tradition, but the agents themselves have to consider what is suited to the circumstances on each occasion, just as is the case with the art of medicine or of navigation (ii, 3).

Notice that, on the other hand, Aristotle is not saying that moral decisions should be left at the discretion of individual human beings in society, who can only be expected to elicit the appropriate moral behaviour given their already morally designed biological nature, as the evolutionary ethicists have sometimes suggested. Rather, it is 'the agents themselves' that are to take a collective decision, so that the well-being of all interested parties may come under immediate consideration.

Finally, having thus explained human moral nature, Aristotle does not assume, as some evolutionary ethicists apparently did, that mere knowledge of facts suffices in itself. Accordingly, he ends the discussion by prescribing three practical steps by which this study can be made worthwhile: the first is to strive to steer towards the mean and to avoid the two extremes of excess and deficiency (ix, 1). The second is to drag ourselves away in the opposite direction from that which leads to error, to which we are ordinarily inclined. Last is the need for vigilance so that pleasure is not indulged to the point of profligacy, as our natural inclination to pleasure makes it difficult—if not impossible—to be impartial to pleasure when it is afoot.

POINTS OF CONVERGENCE OF ARISTOTLE AND BIOLOGICIZED ETHICISTS AS BASIS OF RECONSTRUCTION

Biologicized ethics is, therefore, too narrow for the comprehensive resolution of the questions of ethics. Hence, the need for a broad model. So far, we have outlined the difficulties confronting the project of biologicized ethics. We saw how, on each count, Aristotle's ethics has been relied upon to fill the missing links. One of the points of convergence of these two theories, on which our proposed reconstruction rests, is the fact that both agree that human biological nature offers the basis, or at least a necessary condition, for human morality. While the biologicized ethicists view the human biological nature as sufficient in itself for morality, Aristotle takes it only as a necessary condition; necessary only in the sense that without it, the so-called extra-biological factors of morality would have nothing to act upon. For instance, paper and ink are not sufficient in themselves to produce a literary masterpiece. They are only tools in the hand of the writer. Yet they are necessary because without them, the output would lie in the writer's head merely as ideas. So it is with human biological constitution.

But Aristotle's twin concepts of 'potency' and 'act' are quite useful for clearing the muddy waters of biological reductionism in this regard. The human biological constitution, as seen in the biological capacity for moral behaviour, considered in itself, corresponds to the notion of 'potency'; whilst the subsequent moral development and good moral behaviour, or the disposition consequent

upon that, correspond to 'act'. With these two concepts we are now able to logically deal with the necessary, salient distinction between the human potential capability for moral behaviour, which lies in human biological make-up, on the one hand, and the actual exercise of this capability in the perpetration of proper moral behaviour, on the other hand. As was also argued above, the presence of perfectly tailored biology is not a guarantee for automatic exhibition of proper moral behaviour. Both are distinct phenomena, regardless of how closely allied they appear to be. Immoral behaviour can only proceed out of a perfectly designed biological constitution, not out of deficiency in biological make-up of an individual.

Both approaches also converge in the submission that morality has a natural origin; in other words, that morality need not be deemed an alien or transcendent phenomenon to human nature. Rather, morality arises and goes on in human experience. As such, one need not appeal to supernatural factors in order to theorize or explain morality. On this count, biologicized ethics typically relies on mere elaborate descriptions and explanations of the underlying biological mechanisms that come into play in human moral behaviour or moral dispositions (Hamilton, 1963, 1975; Trivers, 1971; Alexander, 1974; Axelrod & Hamilton, 1981). It, thereby, not only failed to incorporate a well-articulated normative ethics, but also proffers a logically inconsistent account of the phenomenon of moral progress, both of which are the hub of traditional moral inquiry. Yet, without moral progress, there can be no basis for hope in a better future, and thus, neither can social cohesion and social progress be guaranteed.

Finally, evolutionary ethicists viewed moral habit and reason as belonging in the primordial past. According to them, our moral responses and tendencies have been preconditioned from our evolutionary past. Their resultant closed habituation model, therefore, suggests that the moral behaviour of subsequent human generations is only an inherited habit, which originally belonged to their primordial, evolutionary ancestors, who had worked hard for it. This habit was then passed down to subsequent human generations so that morality, for them, would be basically a matter of falling back on these inherited instincts that are biologically constituted within them. Views such as these, as we have reiterated, make it difficult to render a logically coherent account of the phenomena of freewill and moral responsibility within the biological framework. For if our moral sense had been thoroughly pre-established in these ancestral primordial environments, then how could one possibly render a viable account of human moral culpability, blameworthiness, and approbation, all of which make sense only if moral behaviour are dependent on choice and intention—a factor which sets human morality apart from the typical animal biological instinct.

However, based on our argument that morality is, to a very considerable extent, a product of habit and training, a rough on-going moral habituation model may be designed. Like their evolutionary forebears, contemporary humans are also subject to certain basic needs: food, clothing, social integration and cohesion, peaceful co-existence, etc. Thus, humans are still actively involved in the on-going process of confronting the forces that demand the formation of moral habit, such as the struggle for survival and peaceful co-existence. Undoubtedly, contemporary environments are radically different, modifying in very fundamental ways, our mental capabilities, and ways of dealing with needs. It has also been incumbent on humans to create the suitable conditions for the realization of these basic needs, some of which are even biological in nature. Considering that this needs to be done in ways that are consistent with the level of moral consciousness attained so far in moral evolution, it can only be said that our moral habits are, to a very considerable extent, our own.

By making a case for the importance—and in fact, the indispensability—of habit in moral formation, we have at least suggested the solution to the problem engendered by the closed habituation model of evolutionary biology. It is, therefore, possible to see exactly how our subsequent moral behaviour involves an on-going process of habituation. Based on this consideration, therefore, we can posit a broad theoretical perspective that may be called 'Continuous Habituation Model' of morality, which, is backed up by a sort of soft-normativity, and runs as follows:

Premise 1: I learn, from experience, that helping others enhances their well-being.

Premise 2: I find that Smith is in need of help.

Conclusion: Therefore, I make effort to help Smith regain balance in well-being.

Notice that this model is thoroughly embedded in experience and in human biological nature. It does away with 'ought', 'should' or 'must' statements and also brings out clearly the active role of immediate environment and experience in moral behaviour. Free from the naturalistic fallacy charge generally leveled against naturalistic normative theories of morality, it, in fact, fits well with the way we construct such arguments in non-moral circumstances.

An alternative approach, suggested by Emmett Barcalow (1994) and commonly adopted by normative ethicists, is to have recourse to some standard, universal moral principle and then insert a normative proposition as one of the premises, in order to arrive at some legitimate normative conclusion. For example:

Premise 1: Any act that negatively affects people's well-being is immoral.

Premise 2: Smoking negatively affects people's health.

Conclusion: Therefore, smoking is immoral.

Indeed, this model has some in-built advantages; for instance, it overcomes the naturalistic fallacy. What Hume (2003) apparently took issues with was inferring a normative conclusion directly from purely factual

premises. If, however, one of the premises is made a normative proposition, one can go on to infer a normative conclusion. This logical principle is based on the overarching, traditional one that a deductive argument—especially, a syllogism—should have its conclusion implicitly contained in the premises (Copi & Cohen, 1994, pp. 261-266). However, this model is not without problems: it is based on the assumption that everyone shares the same moral principles. Clearly, there are deep-seated differences in the way people take to particular moral principles (Barcalow, 1994). More critically, two, or more, people may agree on the basic moral principle that any act that negatively affects human well-being is immoral, and yet disagree on what the facts about that principle actually are, in the above example, smoking.

One of the recent attempts to re-adapt Aristotle's virtue ethics has been made by William Casebeer (2003). Using moral realism as theoretical framework, Casebeer aimed to render a naturalistic account of morality in an Aristotelian, justificatory sense (as distinguished from a biology-based genealogy of morals). For him, moral facts are discoverable because they exist, as do scientific facts. If we can gain medical knowledge, for instance, what reason is there for thinking that things are different in the case of morality? In reply to J.L. Mackie's denial of moral facts on the grounds of 'relativism' and 'queerness' (see Mackie, 1977, pp. 36-38), Casebeer argues that 'moral facts are functional facts, and functional facts are not queer; we can understand them perfectly well within a materialist ontological framework' (pp.53-54). Morality is more of 'knowing how' than of 'knowing that'; thus, 'having good moral judgment amounts to being able to accomplish cognitive tasks that enable one to meet the demands of one's functional nature' (p. 5).

Hume's 'is/ought' distinction, as well as Moore's 'naturalistic fallacy' and 'open question' theses often leveled at naturalistic ethics have no force, says Casebeer, because they are based on the assumption that some statements are analytic and others synthetic, a dichotomy which W. V. Quine has amply rebutted. Then, falling back on Aristotle's virtue ethics, Casebeer submits that doing good is what we ought to do as human beings, and hence, that morality, as Aristotle once held, is all a matter of fulfilling the right functions. In other words, doing good is what humanity is all about; it is how we exercise our humanity to the full. Here, several possibilities readily open up to us: enjoying enriching relationships, developing and actualizing ourselves as human beings, etc. These activities are natural to us, and, according to Casebeer, constitute enough justification that morality is purely a natural phenomenon. However, even transcendental ethicists recognize this much, in their persuasion that morality is peculiar to humans as what sets them apart from other animals. But, the fact is that humans do not always measure up to this expectations even when they know and understand what is right in a given moral situation. Thus, in itself, expectation does not suffice; and that, as we have shown, is where Aristotle made his mark.

Our proposed model above overcomes all these difficulties because it fits in well with the way we approach even non-moral, normative situations of daily life. In the main, our behavioural responses to the external environment are based on the way that the latter presents itself to us. For instance, when we have been travelling along a straight road, and suddenly discover, at a point, that the road is under construction and that a diversion has been provided, we quite naturally change our course by taking the diversion, even though doing this was not in our original plan of action. Similarly, if we pick up a familiar object, and on closer examination notice that it is not our very own, we quickly drop it back, in response to the fact that we ought not be appropriating what belongs to another. Yet we do not associate this way of thinking with any kind of fallacy, whatsoever, apparently because it fits well with the way we ordinarily behave. What possible cogent reason is there for thinking that moral reasoning and behaviour is any different? Moral problems are just a subset of the discrepancies for which we find solutions in everyday life. Just as I solve the problem of closed road by diverting to a by-pass, so do I respond to the needs of other beings in my external environment, human and non-human, in recognition of the problems posed by the situation. This shows that the human brain, far from being preprogrammed with a series of hardwired mental modules, is fluid and plastic, and able adapt to diverse environmental circumstances, promptly reprogramming itself to meet specific, and unique, needs of humans (Brooks, 2009). Following this continuous habituation model, therefore, one can argue for a theoretical model of ethics which recognizes the findings of Biology, and at the same time, brings back normativity into ethical theory, albeit a soft-nosed manner of normativity.

CONCLUSION

The biological approach to ethics can, in fact, be enriched by insights already accumulated in moral philosophy. As long as humans live in societies, questions will always be raised about how their social life together may be promoted and sustained. Rather than evade the fact that human nature is sometimes prone to morally unwholesome behaviour, Aristotle offered the concrete proposals of positive moral effort and habituation for tackling this problem, for sustainable social progress and peace. In this way, Aristotle's theory fills the vacuum created by followers of the biological approach. Lastly, by painting a reliable picture of human moral nature and capabilities, Aristotle outlined a useful meta-ethical model that provides the necessary blueprint for achieving this goal. Thus, given the biological nature of humans, which

evolutionary biology makes known, biologicized ethics may be remodelled in such a way that humans can, with their well-constituted biology, attain moral excellence, and so, have in place a coherent social structure, in which they can attain their ends.

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