

Human Nature as Imago Dei

with Helen De Cruz and Yves De Maeseneer, "The Imago Dei: Evolutionary and Theological Perspectives"; Aku Visala, "Imago Dei, Dualism, and Evolution: A Philosophical Defense of the Structural Image of God"; Olli-Pekka Vainio, "Imago Dei and Human Rationality"; Johan De Smedt and Helen De Cruz, "The Imago Dei as a Work in Progress: A Perspective from Paleoanthropology"; Tom Uytterhoeven, "Co-creating Co-creators? The 'Human Factor' in Education"; Johan De Tavernier, "Morality and Nature: Evolutionary Challenges to Christian Ethics"; and Taede A. Smedes, "Émil Brunner Revisited: On the Cognitive Science of Religion, the Imago Dei, and Revelation."

MORALITY AND NATURE: EVOLUTIONARY CHALLENGES TO CHRISTIAN ETHICS

by Johan De Tavernier

Abstract. Christian ethics accentuates in manifold ways the unique character of human nature. Personalists believe that the mind is never reducible to material and physical substance. The human person is presented as the supreme principle, based on arguments referring to free-willed actions, the immateriality of both the divine spirit and the reflexive capacity, intersubjectivity and self-consciousness. But since Darwin, evolutionary biology slowly instructs us that morality roots in dispositions that are programmed by evolution into our nature. Historically, Thomas Huxley, "Darwin's bulldog," agreed with Darwin on almost everything, except for his gradualist position on moral behavior. Huxley's "saltationism" has recently been characterized by Frans de Waal as "a veneer theory of morality." Does this mark the end of a period of presenting morality as only the fruit of socialization processes (nurture) and as having nothing in common with nature? Does it necessarily imply a corrosion of personalist views on the human being or do Christian ethics have to become familiar again with their ancient roots?

Keywords: anthropology; Thomas Aquinas; Christianity; emotions; evolutionary biology; morality; personhood

We intend to investigate the evolutionary challenges to Christian ethics in order to move the discussion from mutual anathemas to a more nuanced and restrained engagement (Pope 2013). Taking seriously the outcome of

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evolutionary biology, Christian ethics has to accept its evidence for the underlying material biological conditions of human existence. The acceptance of emergent complexity, reconciling necessity (“law-like regularities”) and chance (“contingency”), forms the background against which we will talk about the natural roots of morality. Biological knowledge about the natural roots of morality raises many questions about human agency, free will, and human freedom in respect of moral responsibility.

The question of the impact of biology on ethics has gradually become urgent since the publication of Darwin’s *The Descent of Man* in 1871. Generally, we can distinguish a premodern and a modern position within Christian ethics. Traditionally, Christian ethicists accepted in the wake of Aristotle biological insights as a basis for their virtue ethics against the background of a belief in the *scala naturae*. Since modernity ethicists were assuming that human subjects were able to overcome their biological antecedents (*nature*) by socialization processes (*nurture*). In line with this, most contemporary Christian ethicists still presuppose a sharp distinction between nature and nurture. While in premodern theologies nature and person are rather presented as two complementary notions, modern theological ethics see often persons as the counterpoint of nature and accentuate in manifold ways the uniqueness of the human species. Personalists believe that the immateriality of both the divine spirit and the reflexive rationality of the human being, underscores the original nature of self-conscious beings.

But is this in the light of Darwin’s insights not a misrepresentation of reality? How relevant is the evolutionary thinking for interpreting the human capacity to act, for both the understanding of moral motivation and the justification of moral acting? Moreover, recent biomedical research, in particular molecular genetics, neurobiology, and psychology, have contributed to a better understanding of human behavior. How to link these new scientific insights about our biological nature to ethical insights in a meaningful way?

DARWIN, ESSENTIALISM, AND EVOLUTION

In traditional representations of the *scala naturae*, also called the *Great Chain of Being*, the biological species diversity is shown as eternally unchangeable, reflecting a fixed hierarchy, ranked higher or lower depending on perfection. The Swedish physician and botanist Carolus Linnaeus (1707–1778) put an end to this essentialist understanding of the *scala naturae*. In early versions of *Systema Naturae* (e.g., 1735) he still defends the classic “*scala naturae*” but in a later edition (1766), the reference is deleted. Linnaeus gathered so much empirical data that he could hardly hold on to speak about a fixed hierarchy. *Systema Naturae* was a reference work for Charles Darwin. He was intrigued by Linnaeus’ gradualist view

of nature (“*natura non facit saltum*”—“Nature makes no leaps”; Darwin 1871, ch. VI). During his studies at Cambridge (1829–1831) the young Darwin still accepted the idea of a supernatural cause to explain the origin of life forms, including human life. An intelligent designer, a skilled divine engineer is the first cause of everything. In his autobiography he described how the careful study of William Paley’s *Natural Theology; or, Evidences of the Existence and Attributes of the Deity. Collected from the Appearances of Nature* (1802) gave him intellectual pleasure. He appreciated the reading of it: “The logic of this book and, as I may add, of his ‘Natural Theology,’ gave me as much delight as did Euclid. (. . .) I did not at that time trouble myself about Paley’s premises; and taking these on trust, I was charmed and convinced by the long line of argumentation” (Darwin 1887; Desmond and Moore 1991, 107–108). Complex life forms do not arise by chance, says Paley. Just as a watch implies a watchmaker, a sense as the eye is created by an intelligent designer. For Paley and many theologians after him, complexity could not arise by chance (Buskes 2008, 15). His “argument from design” presumes the immutability of species (Buskes 2010, 61). Each species has its specific essence, created by God. After the voyage with the *Beagle* (1831–1836) and many field observations, Darwin realized that evolution is quite able to mimic an intelligent designer. At that time, he was already familiar with the fact that selection of desirable traits in plants and animals involves breeding, but seeks for an explanation of the variation in the state of nature. The reading of Robert Malthus’ *Essay on the Principle of Population* (1798) brought him to the idea of natural selection. He observed that the possessor of more suitable characteristics has a greater adaptability in a specific context and thus can survive more easily. Favorable variation is rewarded by natural selection: “But if variations to any organic being do occur, assuredly individuals thus characterized will have the best chance of being preserved in the struggle for life” (Darwin 1859, 127). The particular type of food explains why one could find insectivorous and nectar drinking finches with a pointed beak on one island, while on another island finches have a short, thick beak because they have cracked nuts and seeds for centuries. Based on this empirical data, Darwin definitely swore off essentialism (Darwin 1859, 471, 488–489).

What led Darwin to think about evolution? In the first part of *The Descent of Man* Darwin develops three arguments that give support to the idea of a gradual evolution and therefore advocate a common ancestor. He develops this argument in the light of new knowledge about the origin and age of the earth. After reading Charles Lyell’s *Principles of Geology* (1830) during his voyage on the *Beagle*, Darwin became convinced of *uniformitarianism*, a theory put forward by the Scottish geologist James Hutton. Hutton defended in his *Theory of the Earth* (1795) that strata were formed by millions of years-long processes of sedimentation and erosion and alternation of glacial periods and sea level rises and falls. The earth

is much older than creationists claim. Also new knowledge of the fossil record is important in this respect. The biogeography showed Darwin that the distribution of plant and animal species was not homogenous.

Against this background, Darwin developed a threefold argument for the gradual evolution to apply to humans. The first argument comes from anatomy, in particular the homologous bone structure, trunk and limbs, blood vessels, tissues, muscles, and the nervous system (Darwin 1871, chapter 1). The second argument comes from embryology. Young embryos of vertebrate mammals (he compares embryos of man and dogs) are hardly distinguishable, indicating a common ancestor. He describes how he fully agrees with Thomas Huxley's conclusion in *Man's Place in Nature*: "Without question, the mode of origin and the early stages of development of man are identical with those of the animals immediately below him in the scale; without a doubt in these respects, he is far nearer to apes than the apes are to the dog" (Darwin 1871, chapter 1, 17). The third argument comes from a comparison of the vestigial limbs of both humans and animals. In the human body there are numerous remnants of evolution that are no longer necessary, such as hairiness, the worm-like end of the appendix, wisdom teeth, the nipple of men, the coccyx/tailbone, ear muscles, and the muscle *m. plantaris* in the lower leg. Why would the Creator have created superfluous things? asks Darwin.

His "dangerous idea" that the rich and complex diversity of life forms can be fully explained through natural selection mechanisms worked as a corrosive acid vis-à-vis the traditional creationist view. But what about the mental powers of men? Having unbeatable mental faculties is no convincing contra-indication against evolution for Darwin. In chapter 5, he refers to Alfred Russel Wallace, who stated in a speech before the Anthropological Society at London on March 1, 1864, that we can say that man is a thousand centuries on earth and that we cannot even rule out that maybe man existed already for a hundred thousand centuries on earth (Wallace 1864). Moreover, we know that man has known extinct species. On the difference between man and animals, Wallace wrote that natural selection has a strong impact on animals. A slight injury or temporary illness can be fatal because individuals in competition with predators are left to their fate. Among most animals, there is no question of a division of labor because each animal should handle everything on its own, while among humans, it is different. Human beings are social and sympathetic. Even in the harshest tribes, food is usually provided for those who get sick and old. Less active people fish and gather fruit, the fastest hunt. Food is shared and distributed. In the human world, mental and moral qualities such as sympathy, a sense of justice, self-control, and the possibility at prospecting the future do play a much larger role. Tribes who explore these opportunities have an advantage over others and are superior to other tribes. Tools, clothing, fire use, shelter, cooking, thinking ahead will ensure that the body does not

have to adapt to the changing context. It is different in the animal world. When a carnivore because of scarcity should switch from hunting sheep to hunting buffalo, only the strongest animals will survive because claws and teeth only gradually adjust to the new challenge (Wallace 1864, clxiii). During winter time, larger animals need more fur and fat or else they die. Only the one who can physically adjust can survive. But men do not need long nails, toes, or a larger body weight. People make sharper spears, construct a trap to get meat, and plant seeds of their favorite foods (Wallace 1864, clxiii). People make warmer clothes and build better houses while their natural bodies remain as naked as before.

Darwin endorses the idea that once humans had intellectual, mental, and moral skills that distinguished them from lower life forms, such skills made it apparently easier to respond faster and in an original way to new and challenging living conditions. How does the ethical fit in this picture? Unlike mathematics, physics, and other scientific disciplines, evolutionary biology has far-reaching implications for the understanding of ethics, also for Christian ethics. Central to the debate is the fifth chapter of *The Descent of Man*, where Darwin focuses on the evolutionary roots of morality.

DARWIN ON EVOLUTION AND MORALITY

Wallace emphasizes that culture compensates for the human deficit in biological terms (see Gehlen 1940, 1956, 1970). Darwin seems more nuanced. He noticed that many analogies were found between human and animal behavior. Hesitantly he described how the same emotions form the basis of moral behavior in animals and humans: fear and courage, affection and disgust, playfulness and seriousness, care for the offspring. Just like humans, primates are excited when they can help each other, and become stressed in grief. Both internalize group values and are sensitive to good and disapproval of their behavior by supporters. Via the emotions most animals also have a social character, and know forms of cooperation and are concerned about the welfare of their children (e.g., elephants, ants, and buffalo). The capacity for sympathy and empathy is not strange to most mammals. Wolves help each other, dogs have a great empathy and are a paragon of loyalty and obedience (Darwin 1871, 77). In many animals, social instincts and group loyalty are rewarded because social behavior contributes to the survival of the group.

Darwin observes similar behavior in humans: helpfulness to acquaintances, craving for sociality, loyalty, and obedience. Humans also react partly instinctively, are most often naturally sympathetic and happy when they can help each other, becoming stressed in case of grief. So he mainly sees continuity between animals and humans, even in the moral domain. Contra-indications include, in animals, the lack of care for the sick and old, and especially lack of conscience, for Darwin the main difference

between humans and animals. But if animals should have equivalent intellectual abilities as humans, they would possibly also have a conscience (Darwin 1871, 71–72, 78). On the one hand he acknowledges that the difference in mental strength between a highly evolved ape and a primitive man is immense, on the other hand he points out that forms of self-consciousness—including memory capacity—are known to some animals, the nearest to human beings.

Darwin's conclusion is clear: man is the product of a continuous and gradual evolution and the same goes for moral behavior. He also observes that evolution does not have to exclude altruism. Although he could not explain why, he describes how the evolutionary process made gentleness, as well as ruthlessness, visible. His inspiration for linking self-interest and sympathy came from the Scottish moral philosopher Adam Smith. The relationship is not always visible because, as often happens in evolution, the immediate impetus for the emergence of behavior becomes separated from the effects that evolution itself has created. But the expression is still there, even if the pay offs are no longer relevant.

DARWIN'S GRADUALISM VERSUS HUXLEY'S SALTATIONISM

Originally, the physician and philosopher Thomas Huxley was not convinced about the “development theory” as the theory of evolution was originally called, as he mentioned in a lecture to the Royal Institute in 1855. That changed after contact with Darwin. Darwin liked to discuss his ideas in small groups, and he invited Huxley. In 1858, a draft version of a paper by Darwin on natural selection, meant as a lecture for the Linnean Society, was discussed. Huxley's defense of Darwin began with an anonymous rave review of *The Origin of Species* in the *Times* (December 26, 1859). Not unjustly, he was later nicknamed “Darwin's bulldog.” A sharp reaction came from Richard Owen, chair of the British Association for the Advancement of Science, who wrote an anonymous scathing review for the *Edinburgh Review* and asked the Oxford bishop Wilberforce to do the same for the *Quarterly Review*.

In *Evidence as to Man's Place in Nature* (1863), Huxley showed anatomical evidence (form of brain, bone structure) to support the relationship between apes and human beings. But Huxley differed with Darwin on an important point, namely the origin of moral behavior in humans. Why? Huxley cannot imagine that the rich diversity of moral behavior could be due to small, gradual steps, as Darwin suggested. Of course, there is, according to Huxley, a physical impact of nature on the human condition, but people are able—if they want—to control nature. In the Romanes Lecture on *Evolution and Ethics* ([1893] 2009), he compares this task with the weeding of a garden: human ethics is a victory over brute evolutionary forces (Ruse 2009, xxi).

Huxley sees morality as a distinctive divide between humans and animals in the sense that only humans are moral beings who are capable of being moral by distinguishing themselves from nature. So morality for Huxley is not an extension of animal behavior nor part of human nature. Our ancestors became mentally competent by making explicit choices based on free will, not by evolution. Social behavior is for him an entirely cultural phenomenon. Human beings have transcended their biological roots and were obliged to continue doing this if they want to make progress (Ruse 2009, 81).

If we look at the debate today, we see that the majority of Christian ethicists follow Huxley's saltationism. Saltationists presume macro-mutations (*saltare* means "to jump"). A mild variant of saltationism is the theory of *punctuated equilibrium* (Gould and Eldridge 1993, 223; Gould 1999). The followers of Huxley defend the view that humans are moral beings by culture, education, and the social environment in which they dwell (nurture). Moral behavior is the result of a socialization processes. In that sense, George C. Williams presents morality as an "accidental capacity, resulting from biological processes, that normally is not appropriate to bring such a capacity to an expression" (Williams 1988, 437–438).

For Darwinists like philosopher and sociologist Edvard Westermarck (1906), biologist E. O. Wilson (1975, 2004), and primatologist Frans de Waal (2006, 2009), Huxley's "veneer-theory about morality" suggests that morality is merely "a cultural overlay, a thin veneer hiding an otherwise selfish and brutish nature" (de Waal 2006, 6; de Waal 2009). In line with Darwin they see morality as the further development of social instincts and emotions such as anger, shame, protest, pity, and grief. De Waal considers these instincts essential "building blocks of morality" which we share with other primates. For gradualists, it is not important to know whether animals can be moral, but whether they have the capacity to reciprocate and take revenge, have a sufficient capacity for sympathy and empathy to settle disputes and help if needed, and are able to respect social rules (Flack and de Waal 2000).

In the debate between the two "schools," the following glaring questions arise: What can we do with the acquired knowledge of evolutionary biology on morality? What implications does the knowledge that man is evolved have for the understanding of morality? What has evolutionary biology to say about moral action, for example about charity and altruism? If the origin of moral action can be found in nature, can there be any question of freedom? Or is our behavior biologically preprogrammed (genes, inheritance)? Can the origins of morality be found in nature, or is morality a cultural phenomenon (education, social environment)? Finally, does a gradualist conception of evolutionary biology necessarily end in a kind of corrosion of ethics and in an undermining of the (theological)-anthropological views used in ethics?

IS COOPERATION POSSIBLE IN THE STATE OF NATURE?

Many Christian ethicists may fear that to follow a Darwinian view would lead to a Hobbesian view of human nature. Evolutionary biologists thoroughly disagree with Hobbes's description of the state of nature. For Hobbes the state of nature is characterized by a constant war against all which leaves no room for empathy, compassion, and altruism. Only a sovereign who demands from each a piece of political freedom in exchange for personal safety or a social contract model are able to avoid a state of permanent violence. Evolutionary biologists do not think that this is an adequate description of the state of nature (de Waal 2006, 3–4). What kind of explanation do they offer for the willingness to cooperate in a selfish environment in which only survival counts? An evolutionary starting point presumes that even in natural environments there is a will to cooperate, as is the case in the works of E. O. Wilson and de Waal. But how does cooperation arise in the state of nature in the absence of a compelling central authority? Evolutionary biologists argue that morality is not the result of a cultural process but rather the opposite: culture, including morality, is the end product of a long evolutionary process. Moral systems arise as the result of the need to avoid escalation of conflicts, to ensure personal safety through the maintenance of a social order.

But what explains the evidence that there are forms of collaboration in environments where apparently only self-interest counts? And can cooperation also be the result of altruism or is it always the result of enlightened self-interest, related to self-preservation in the middle or long term? In recent decades there has been much research into whether Darwinism can explain the roots of normative ethics. The breakthrough came with the rise of sociobiology, which presented reflexively different models of kin altruism and reciprocal altruism by showing that the Darwinian principle of fitness also enhances the willingness to help others (Radcliffe Richards 2008, 162–164). Natural selection mechanisms could play a role in promoting altruism. To explain this, evolutionary biologists refer to game theory. John von Neumann and Oskar Morgenstern describe the interaction between two parties as a strategic game (von Neumann and Morgenstern [1994] 2004). Suppose that each participant behaves rationally (i.e., aims at maximizing its own profit), what is the better strategy? The authors distinguish between zero-sum and nonzero-sum games. In the latter case, there could be cooperation. It is not unconditional altruism—the risk of exploitation remains high—but a kind of reciprocal altruism is possible. Sociobiologist Robert Trivers typifies this strategy as “tit-for-tat” strategy, which means that a temporary sacrifice is considered as acceptable because one expects to be refunded later for it (Trivers 1971). Game theorist Robert Axelrod shows that tit-for-tat strategies are preferable in specific contexts (Axelrod 1984, 54). For instance, one can choose to avoid unnecessary conflict by collaborating in the hope that others will do the same.

Axelrod also points out that emotions are the lubricant to obtain cooperation in the long run. The greater the emotional involvement, the more it allows us to derive advantage from social relations. It is not a cold rational assessment strategy. On the one hand, if we think of kin altruism, we understand that within family relations we do not make a cost-benefit analysis and do not usually ask ourselves whether we have received enough from brothers and sisters on our birthday. Mutual affection is able to justify even asymmetric input (e.g., care of children by parents). On the other hand the calculated reciprocity of reciprocal altruism is also rooted in emotions: the honor to fulfill promises, the impending guilt if we are exposed as impostors, sadness if anyone else around us is dishonest, cheerfulness when we meet an altruist. Not only humans but also apes know these emotions and sentiments. De Waal and Wilson claim that the willingness to cooperate has emotional roots. Instead of pursuing everywhere and in any context potential gain and maximizing profits, both humans and animals are afraid of loss and betrayal because they know that love can easily turn into revenge, jealousy, and envy. Conscience is therefore described by evolutionary biologists as a functional emotion that helps distinguish between self-interest and group interest. The latter is best served with respect, generosity, altruism, and cooperation.

The fact that murder, rape, and robbery are universally recognized as crimes indicates that morality is a code of conduct, arising from the biological need for cooperation. It contributes to solidarity with other group members, and creates harmony and team spirit. At first sight a merely cultural product, morality turns out to be in reality the result of biological necessity. Those who share this vision are not expecting too much; striving for a universal brotherhood for example, is highly utopian and not very realistic. For gradualists like Wilson, morality is certainly not exclusively a cultural given but the logical consequence of a natural process (Wilson 1975, 562). Those who see morality from an evolutionary viewpoint renounce the idea of an absolute foundation for morality. This has important consequences and risks downsizing our moral capacities. Wilson's description of the engagement of Mother Teresa with the dying of Calcutta may illustrate a certain reductionist tendency: he typifies it as a cynical expression of egoism ("self-serving"), purely motivated by "biological imperatives" (Wilson 2004, 166).

NATURALISM, FREE WILL, AND RESPONSIBILITY

Illustrative of the impact of evolutionary psychology in undermining the exclusive character of human phenomena is the distance of Jean-Pierre Changeux and his master Jacques Monod, who considered the transition to speech and the appearance of the neo-cortex as a coincidence which implied that the human is qualitatively different (Monod 1970, 174). Changeux

specifies in *L'Homme de vérité* (2004) that the difference between an animal and a human brain is quantitative rather than qualitative, an idea which he had mentioned already in *L'Homme neuronal* (Changeux 1983, 87). It all seems a matter of brain size. But what triggered from an evolutionary viewpoint the larger brain size in humans is still not yet fully elucidated. Neurobiologist and Nobel laureate Gerald M. Edelman points to the speed with which human consciousness, the result of the complex morphology of the brain, has appeared, mainly due to the rapid increase in brain size (Edelman 1992, 17).

There is even less consensus about the implications of this naturalist approach. Wolf Singer, for instance, concludes that the *Homo sapiens sapiens* has no free will (Singer 2002, 175). He cannot imagine how human beings can be free in a deterministic world. That does not mean that ethics becomes an illusion; the moral undertaking can continue to exist as an autonomous discourse but we have to realize that it is fiction, as is defended by the Dutch brain scientist Victor Lamme and the Flemish philosopher and neuroscientist Jan Verplaetse: "The idea that a conscious 'I' is at the controls, is an illusion" (Verplaetse 2011, 14). Since we cannot control our actions, we cannot be held responsible for what we are doing, according to Verplaetse, who disagrees with Lamme because he still believes that the disappearance of free will does not necessarily constitute a threat for our thinking about guilt and responsibility. On the contrary, for Verplaetse, the notion of guilt has become irrelevant while for Paul Thagard this does not mean that we can no longer control ourselves or lose our capacity for rational judgment (Thagard 2010, 138). In general, determinists believe that deliberately acting is an illusion, presupposing that the existence of free will is incompatible with the causal closeness of the physical universe. On the other hand compatibilists combine a moderately deterministic vision with the freedom to choose. This perspective is, for instance, assumed by psychologist Daniel Kahneman who explains in his dual-process theory how a nonvoluntary, automatically operating model of reasoning (System 1) intertwines with a voluntary, consciously reflexive model of reasoning (System 2) (see Vainio 2014 on "*Imago Dei* and Human Rationality"). Based on the idea that we could do something else than what we did (the principle of alternate possibilities), compatibilists believe that freedom of choice is possible, stating that indeterminism opens the possibility of robust moral responsibility and "ultimate authorship" (Mawson 2011, 56).

What can we learn from scientific interpretations of consciousness for understanding ethics (Boniolo and de Anna 2006, 2)? Do they only explain the human moral capacity by stating that all cognitive capacities have a biological basis? Or do they also justify it (Rottschaefer 1998)? Defenders of weaker forms of naturalism will accept that in addition to scientific explanations also other explanations are conceivable. Stronger forms of naturalism argue that natural sciences could explain ethical behavior, but

not justify it. A third position is that science cannot only explain but also justify ethics. Most authors choose a weak form of naturalism that explains some characteristics of moral behavior. For instance, Boniolo suggests that evolutionary biology can explain the “enabling conditions” for the human moral capacity but neither explain moral judgments nor justify ethical systems. De Anna thinks that evolutionary thoughts help understanding the origin of our ethically relevant cognitive ability but only in conjunction with nonbiological considerations. To some extent, moral capacities are an accidental evolutionary outcome made possible by evolved mental properties. Michael Ruse defends a stronger form of naturalism. He believes that some form of normativity successfully can be explained by evolutionary knowledge. Because we know that evolution is rudderless, we need justification. However, for Ruse—as for Wilson—it accounts for a happy illusion (Ruse and Wilson 1985; Ruse 2006, 21). There is no reason to become pessimistic about this, because we also realize that the illusion will not disappear soon because of its firm roots in deeply anchored moral sentiments.

INCLINATIONS AND VIRTUES

Evolutionary biology instructs us that morality roots in dispositions that are programmed by evolution into our nature. This was not a strange idea to the classics. For Aristotle and Aquinas, animals and human have emotions and passions in common (*Summa* 1a2ae, Q. 40, art. 3). Aquinas describes such passions as joy, anger, love, hate, desire, sadness, aggression, hope, and fear. However, human beings are able to control them by reason. Aquinas doubts Aristotle’s granting animals even cognitive capacities, such as “prudence,” albeit gradually different from humans (see Darwin 1872; Deane-Drummond 2004, 83). But modernity gradually developed a dualist perspective on human/culture/reason and animal/nature/body and depreciated the latter. To the degree that the Christian tradition has embraced modernity, a nature-culture dichotomy in combination with a particular theological anthropology has been very influential. For instance, the personalist tradition aligned with this modern dichotomy. However, for the classics it was a mistake to think that behavior was either exclusively biological or cultural. Nature and culture are intimately intertwined. Aquinas’ idea that we will better know ourselves if we observe animal behavior has been lost. He recognizes that animals are sensitive and possess a certain decision-making power, though theirs is not comparable to human free will (Baranzke 2002, 171, 191). And we share with animals numerous natural inclinations that are at the basis of social tendencies, such as the desire to know, the desire for companionship, and the desire for food and sex. The good life for humans, partly based on reasonableness, is the result of checks and balances in inclinations, passions, and reflection.

Understanding the biology of our nature will make us more alert to the innate urge to lie, even for the better, for the tendency to be blind to our weaknesses, to hide vices, and to justify prejudices. Alisdair MacIntyre concludes his *Dependent Rational Animals: Why Human Beings Need the Virtues* (1999): “In *After Virtue* I had attempted to give an account of the place of the virtues, understood as Aristotle has understood them, within social practices, the lives of individuals and the lives of communities, while making that account independent of what I called Aristotle’s ‘metaphysical biology.’ Although there is indeed good reason to repudiate important elements in Aristotle’s biology, I now judge that I was in error in supposing an ethics independent of biology to be possible . . .” (MacIntyre 1999, x). In fact, he accepts that humans are animals too. Our reflexive capacity does not make us so different because we share with animals purposeful action, social needs, and beliefs. Although rationality gives us a “second nature” beyond our physical nature, there is also a lot of continuity that helps us better grasp human needs. We are not born as autonomous moral agents and need to be nurtured in order to become free agents. This process of nurturing has not much to do with learning to solve ethical dilemmas by discussing and arguing value conflicts. Yet, there is still the need to grow in intelligibility through participation in the culture of the smaller and broader communities to which we belong, because we are born in a culture, but not just as Lockean blank slates. MacIntyre acknowledges that there is no sense in dealing with the good, norms, and virtues without paying attention to the biological constitution of humans and explaining how ethical discourse connects to this and could remain consistent with biological findings.

CONSCIOUSNESS

Antonio Damasio distinguishes the self-as-object that interprets the material “me” (*conscience-noyau*) and the self-as-subject-and-knower (*conscience étendue*). The self-as-object is about phenomenal consciousness—for instance, what we experience when we taste chocolate or are drunk. We are not self-aware of what is happening but we merely experience (Damasio 2003). This kind of consciousness we share with animals. The last “I”—the self-as-subject-and-knower—cannot be caught by biological or mental processes. Damasio talks about a turning point in biological evolution. The decisive step in the growth of this type of consciousness is subjectivity, which means that we are able to make representations of ourselves. Put in evolutionary biological perspective: First, there is the “proto self with primordial sentiments” (*proto-soi*) (combining sensory data with controlling of information processing in fish), then “the core self, driven by acting” (*le soi central* or a type of primitive consciousness), and finally “the autobiographical self,” capable to include rationality, reflection, deliberation,

self-awareness, and even spirituality (Ganoczy 2008, 124–126; Damasio 2010).

Subjectivity is an emergent property. It is the result of a progressive awareness that is strongly influenced by basal emotions like pleasure, suffering, satisfaction, and anger. A good description of this “core self” can be found in the work of Jane Goodall, who describes how a chimpanzee can set up a primitive reasoning. The primitive animal consciousness is the indispensable basis for the autobiographical self. The evolutionary developed mental abilities (language, intelligence, decision power, memory capacity, capacity for abstraction) give human beings a superior consciousness (Edelman 1992; Changeux 2004, 294). Edelman uses the notion of “transcendence” in the sense that animals are only able to adapt to the real, while humans have the ability to think imaginatively. The very imagery (conceptual and abstract thinking, art forms, religious experience) makes humans able to distance themselves from conditioned reflexes and make judgments about them in a lucid way.

Damasio sees human beings as a mix of rationality and emotion. He points out how moments where a well-practiced unconscious mind is trained under the supervision of conscious reflection are interspersed with moments where we let ourselves be guided by unconscious, deeply rooted, ancient biological inclinations, passions, and desires (Damasio 2010). We often play in both registers. However, we think that we always act under conscious control of the self but this is rather an illusion. In that sense, he developed a rather distinctive understanding of free will, referring to Daniel Wegner, who describes the conscious will as the somatic stamp of personal authorship, an emotion that confirms that the self is the authentic owner of the action. By feeling the performance of an act, we get a conscious awareness of the will, which is linked to the act (Damasio 2010). Without the feeling of authorship, we would not be able to record moral responsibility. But the unpredictable human behavior—our “yes” is often a “no” and vice versa—can only be consistent if we are willing to analyze and to evaluate our behavior and to reflect constantly on our less conscious acts (Vincent 1986). Wisdom is reserved for those who accept that becoming virtuous needs a long period of training (Vincent 1986; Ganoczy 2008, 131–132). Nonconscious processes that explain why we so often neglect what we really ought to do are often insufficiently “educated.” We realize that it is better to eat healthier and exercise more, and yet we often do not change our habits. Our biological nature prefers for evolutionary reasons the consumption of sugars and fats. The advertising propaganda machine is conveniently using the “weak” point to promote the consumption of what we’d better not touch (Nelissen 2011, 72–76). But we realize that we will eat more wisely and responsibly only when we develop long and ritualized skills (e.g., regular fasting) in order to effectively restrict these natural impulses.

CHRISTIAN ETHICS?

Insofar as the natural sciences explain the basic conditions for human action and insofar as they do not justify moral behavior, they need pose no threat for Christian ethics. On the contrary, a neurobiological and psychological clarification of the emotions that are relevant to the capacity for moral action (be it by way of hindrance or promotion) contributes to a better understanding of moral commitment. Human beings always act from certain motives and desires that are biologically rooted (Joyce 2007, 9–10). What concerns the relative role of neurosciences in explaining (im/a)moral behavior Damasio refers mainly to the contribution of positive and negative feelings as a basis for moral behavior, for example, the sense of outrage which the late Stéphane Hessel, as the father of the *indignados*, has made his trademark (Damasio 2003; Hessel 2010).

Those who take feelings seriously can accept that other sentient beings demonstrate “empathy, sympathy, attachment behavior, confusion, dominant pride, and humble submission.” Acts of conspecifics may be intuitively disapproved or approved by me. This intuition has a form of premoral competence. Long before intelligent constructions (for example theories of justice) had been thought of to shape normative social behavior, these intuitional feelings played a role in the development of cooperation strategies among nonhuman species that used social emotions.

However, the trend toward more complexity is such that cultural elements came more to the fore. The perception of obligations, the degree of responsibility, and the codification of rules are of course quite distinctive and are called “culture.” But the distant relationship with nature still remains and sometimes the relationship becomes more visible, for example, in the ambiguity of such character traits as dominance and docility regarding traditional values. Docility is useful for any organization that strives for a consensus in conflicts but it can also lead to unacceptable forms of resignation, submissive assent, the acceptance of tyranny, and the unreasonable subordination of individuality to group interest. Christian ethics in its traditional form had paid great attention to biological mechanisms that block or promote ethical behavior. Knowledge of evolution is capable of deepening Christian understanding of the biological factors that influence virtues and sin (Pope 2007). Traditionally, moral education, which practiced and ritualized moral skills and asceticism, needed to get a grip on partly unconscious natural processes that always threaten to drive behavior in an arbitrary way.

Christian ethics can certainly live with the idea that evolutionary biology teaches us that morality is a mix of culture and nature, unlike many common cultural determinist views on Christian ethics. In this sense, the argument of Wilson that morality is a combination of nature and culture, inheritance and environment, has to be more scrupulously studied (Wilson 1975, 562).

NATURE AND/OR PERSON?

The Vatican II consensus text in *Gaudium et Spes* no. 51 (“... according to objective criteria, based on *the nature of the person* . . .”), so often discussed after the Council among the defenders of personalism and those of natural law, could receive a new interpretation (McCormick 2006, 14–16). In official magisterial teachings it is often suggested that an orientation to normative moral choice can be detected in nature. The idea that in nature a kind of moral intelligibility could be discovered which justifies normativity is radically contested by personalist ethicists. For them, not biological nature but the person is the decisive assessment criterion. Personalists rightly criticize natural law but pay at the same time little attention to issues associated with “nature,” spontaneous emotions and natural tendencies which all were the starting point of a realistic Christian ethics in ancient times. From this perspective, the document of the International Theological Commission *In Search of a Universal Ethics: A New Look at Natural Law* (2008) is also a missed opportunity.

A better position is taken by Jean Porter. For her, natural inclinations and emotions are morally relevant, though not morally determinate. She opposes a conception of natural law that reduces the normative significance of nature to practical rationality. Moreover, she thinks that an abstract, ahistorical interpretation of the natural law does not correspond to the Christian idea that creation in itself is good. Scholasticism believed that human nature, including the prerational, biological roots of behavior, were morally meaningful and would therefore not have a problem in integrating modern scientific insights (Porter 2005, 51). But, although an important biological substrate of human nature is still there, the person is much more than a biological being. A good life for persons can never be claimed, as the Stoa says, to be “life according to nature.” We have to distinguish between natural aspects that must be suppressed and aspects that should be encouraged. The Christian tradition provides relevant criteria for this.

For theological ethics anno 2014, it is important to recognize that an appropriate interpretation of the Darwinian theory of evolution corresponds to a vision of the “nature of the person” which was known by classical Christian authors. Think of the very distinctive relationship between passions, emotions, and virtues, outlined by Thomas Aquinas and how moral education could be considered (Pope 2007, 265–267; Pope 2009, 204). The Christian moral life can thus be interpreted in the classical sense as grace perfecting nature, building on natural capacities, correcting and improving them where necessary. By doing this, our ethic gains realism and stays in close contact with human experiences. It allows us to see how acts of altruism can be interpreted as “natural” only within the domestic sphere and within the community of close friends. Asking altruism on a universal level is asking too much from human beings. At the same time it allows us

to see that there are also exceptional people who are capable of generosity and self-giving to other people which they do not know and with which no form of reciprocity is involved (Cornwall 2007). That religions—albeit exceptionally—can bring people to such forms of detachment and disinterestedness is probably from the ethical point of view the main reason they exist.

CONCLUSION

Ethics after Darwin is no longer an exclusively theological or philosophical discipline. Biologists and neuroscientists present divergent statements about the biological roots of morality. Orthodox Darwinists are diametrically opposed to Huxleyans. Whoever sees morality as an evolutionary product has for de Waal a more livable world in mind than Huxley and his followers. But Huxley, who always publicly defended Darwin's theory of evolution, concluded his Romanes lecture at Oxford in 1893 with the memorable cautionary statement: "Let us understand, once for all, that the ethical progress of society depends, not on imitating the cosmic process, still less in running away from it, but in fighting it" (Ruse 2009).

Is there a Darwinian meta-ethics? "Hyper-Darwinists" believe so (Kitcher 2006). Hyper-Darwinism supports a distinct meta-ethical view that necessarily puts the truth of moral judgments into question and even argues that moral knowledge is impossible. Moderate Darwinism believes that evolutionary biology does contribute to a better understanding of some aspects of human moral behavior and may explain why people are interested in the development of social systems, but its evolutionary influence is not far-reaching. Finally, there is a third group of interpretations which states that recognition of forms of evolutionary relationship better enables us to understand our obligations to others. Kitcher thinks that natural selection has played an important role in the development of moral consciousness and sees morality as a fitness strategy, just like the development of limbs and senses. But culture has taken the upper hand. Kitcher swings between two extremes: between those who believe that everything is truly cultural (the blank slate hypothesis) and those who argue that everything is fundamentally biological (the genetic determinism hypothesis). However, Kitcher brings in an important nuance. On the basis of the history of codification, starting with Hammurabi, he describes in great detail how the growing interest in legal systems can be regarded as the continuation of efforts to avoid violence among hominids (Kitcher 1985; Kitcher 2006, 175–176). However, after a while such pacification strategies live a life of their own and should not be linked any longer to the idea of "reproductive success."

One hundred years later, evolutionary biologist George C. Williams still wholeheartedly agrees with Huxley. He titled an influential article:

“Mother Nature Is a Wicked Old Witch” (Williams 1993). For Christian ethics there is a twofold caution. (1) A too extensive naturalistic view of morality cannot be accepted by Christian ethicists. A morality based purely on nature becomes essentialist and totalizing. Those who view ethics from a deterministic view of human nature confuse “is” and “ought.” This view certainly leads to aberrations such as Francis Galton, Darwin’s cousin, who refused to help the needy because doing nothing would be more consistent with “nature.” He gave support to eugenic experiments because they are “natural.” Such forms of legitimation of inequality explain the Christian ethicist’s healthy suspicion of what science has to say about morality. (2) A strong naturalistic view of morality cannot but think that there is only *seeming* kindness and selflessness. For Dawkins, altruism is disguised selfishness: selfish genes try to secure their own survival and adopt an altruistic tactic when it suits their purpose (Dawkins 1976, 3). Maintaining familial genes, reciprocity (tit-for-rat), honor (generosity), and the power drive are the true origins of altruism. They also explain the at times strong urge to self-sacrifice. Such a reductionist view of ethics is for Christian ethicists not acceptable because it results in a cynical view of ethical behavior. Without a minimum level of authenticity, the ethical becomes eroded.

NOTE

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