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Johan De Smedt
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Empirically Engaged Evolutionary Ethics

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Empirically Engaged Evolutionary Ethics

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Chapter 1
Situating Empirically Engaged Evolutionary Ethics

Johan De Smedt and Helen De Cruz

Abstract This introductory essay provides a historical and cross-cultural overview of evolutionary ethics, and how it can be situated within naturalized ethics. We also situate the contributions to this volume.

Keywords Charles Darwin · Pyotr Kropotkin · Paul Rée · Arthur Schopenhauer · Naturalistic ethics · Evolutionary ethics · Mozi · Mengzi · Yangming Wang · Immanuel Kant · Moral foundations theory · Henry Sidgwick · G.E. Moore · Competition · Mutual aid · Experimental philosophy

1.1 What Does It Mean to Naturalize Ethics?

Empirically engaged evolutionary ethics refers to the study of the evolution of morality with the help of one or more empirical sciences and its philosophical implications. Since the nineteenth century, philosophers and scientists have examined ways to bring evolutionary theory in conversation with ethics, looking at the broad implications of descriptive evolutionary ethics for normative ethics, metaethics, and applied ethics. However, the quest for naturalizing ethics preceded evolutionary theory.

In 1840 Arthur Schopenhauer wrote a polemical essay in which he pushed back against deontological ethics with its focus on what we ought to do, as expressed in particular in Kant's *Groundwork of the Metaphysics of Morals* (1785 [1998]). Schopenhauer instead proposed that ethics should not focus on what *ought to be*, but on what actually *is* the case.

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> The end which I place before Ethical Science is to point out all the varied moral lines of human conduct; to explain them; and to trace them to their ultimate source. Consequently there remains no way of discovering the basis of Ethics except the empirical. (Schopenhauer 1840 [1903], 148)

This concise statement by Schopenhauer provides a useful summary for naturalistic projects in ethics: the empirical sciences serve both as a grounding for ethics (i.e., its ultimate source) and as a methodology (i.e., the empirical sciences are the only or best way to discover the basis of morality). Moreover, naturalistic approaches to ethics often aim to determine whether an ethical project is in line with human nature, however perceived. Naturalizing ethics, then, contains an acknowledgment that ethical life is grounded in physical, embodied interactions with others and our environment. In other words, the formulation of ethical principles ought to be constrained by empirical findings about the biological, social, and other constraints and possibilities to which moral agents (principally, human beings) are subject.

In the decades following Schopenhauer (1840), the publication of Darwin's *Descent of Man* (1871) gave a new impetus to naturalistic ethics. A vigorous discussion ensued on how the Darwinian project could be integrated into philosophy – a discussion that went on with various interruptions until the present day, and of which this book is a part. This volume presents nine original essays by authors from various disciplines, including philosophy, anthropology, developmental psychology, and primatology, who write in conversation with neuroscience, sociology, and cognitive psychology.

1.2 Empirically Engaged Ethics Before Darwin

Empirically engaged ethics is not a radically new project that only emerged in conversation with evolutionary theory. Throughout history, ethicists have considered the practical constraints and ramifications of their theories. As Ruse and Wilson (1986) point out, evolutionary ethics can be traced back to a broader tendency to naturalize ethics which was prominent in the nineteenth century, but can also be found in pre-Darwinian authors such as Robert Chambers (1844 [1994]), who saw precursors of human morality in animals, and envisaged a gradual moral progress in human societies over time, the result of early socialization in children and cultural evolution. However, if one focuses on western philosophy written in the twentieth century, one may get the impression that naturalizing ethics is a fringe project. For example, Flanagan et al. (2008, 2) observe that "ethical naturalism has a fair number of philosophical advocates, but most people reject it – including many in the academy."

Be that as it may, many ethical traditions show naturalistic tendencies. Traditions from large-scale historical societies such as in ancient Greece (e.g., Stoicism), ancient China (e.g., pre-Qin Confucianism, in particular Mengzi and Xunzi), and the Indian subcontinent (e.g., the hedonistic ethics of the Cārvāka philosophical school) have extensive and well-developed theories on normative and meta-ethics,

as do traditions in small-scale societies, such as Native American philosophies (see e.g., Marshall 2001, Waters 2004). With few exceptions, these ethical theories are also naturalized: they are firmly rooted in the practicalities of human life, and they consider limitations such as weakness of will, as well as the role of emotions such as anger and empathy, as important constraints on morality.

To give but one example, the neo-Confucian philosopher Wang Yangming (1472–1529) addressed questions of a hypothetical student in his *Questions on the Great Learning* (1527 [2014]). He held that compassion and benevolence, important components of morality, are part of our innate human nature, something that all human beings share, including noble, broadminded ("great people") and narrow-minded ("petty") people. The reason that we are all able to feel compassion and benevolence is that we are in fact all part of the same universe: we share its abstract structure 理, *lǐ*, and its primordial stuff (matter and mind) 氣, *qì*. Because of this intimate metaphysical connectedness, we cannot but feel concern for creatures and things that we share the planet with:

> The ability great people have to form one body with Heaven, Earth, and the myriad creatures is not something they intentionally strive to do; the benevolence of their minds is fundamentally like this. […] Even the minds of petty people are like this. […] This is why, when they see a child [about to] fall into a well, that they cannot avoid having a mind of alarm and compassion for the child. This is because their benevolence forms one body with the child. Someone might object that this response is because the child belongs to the same species. But when they hear the anguished cries or see the frightened appearance of birds or beasts, they cannot avoid a sense of being unable to bear it. This is because their benevolence forms one body with birds and beasts. Someone might object that this response is because birds and beasts are sentient creatures. But when they see grass or trees uprooted and torn apart, they cannot avoid feeling a sense of sympathy and distress. This is because their benevolence forms one body with grass and trees. Someone might object that this response is because grass and trees have life and vitality. But when they see tiles and stones broken and destroyed, they cannot avoid feeling a sense of concern and regret. This is because their benevolence forms one body with tiles and stones. (Wang 1527 [2014], pp. 241–242)

Wang drew inspiration from the earlier, pre-Qin philosopher Mengzi (4th c. BCE [2008], Book 2A6) who came up with the thought experiment of the child teetering at the rim of a well to illustrate that people innately have incipient moral tendencies, including compassion, that can grow into a fully-fledged morality. To explain the origin of our innate morality Wang suggested a connection between our ontological status as parts of a larger whole and our ethical concerns for the other parts of the universe.

Naturalism in ancient ethical traditions is not only expressed in how philosophers situate ethics as part of human nature; it is also an important part of how ethical claims are or could in principle be tested. Perceived testability has been an important measure for ethical theories throughout history, even though empirical testing was not done in a systematic way, and occurred often in the form of thought experiments where the reader has to imagine what she would do in a given situation. Consider the arguments by Mozi (5th–3rd c. BCE [2009], part 16) in favor of impartialist ethics. Mozi was a pre-Qin philosopher who advocated an ethics of

impartiality, where one should not treat close family and friends more favorably than strangers. He offered two empirical arguments, both in the form of thought experiments. The first has the reader imagine that they are going on a long trip with an uncertain outcome, and need to entrust their family to a caretaker. Mozi holds that you would rather have your family taken care of by an impartial than by a partialist caretaker, since the former will treat your and his family in the same way. The second imagines a country where a severe pestilence is causing economic havoc and deprivation. If you lived in this country, would you rather it were ruled by an impartialist who tries to instate policies that benefit everyone without distinction, or would you prefer a partialist ruler who puts the wellbeing of his own family and friends above that of other citizens? To Mozi, the answer is clear: everyone would prefer an impartial caretaker and an impartial ruler, and this preference (that even a partialist would have, under these uncertain circumstances) vindicates impartiality. The history of ethics abounds with such thought experiments. Though they are not controlled empirical studies, they show a concern of philosophers for the empirical limitations and strengths of their ethical theories.

These considerations lead us to conclude that ethical naturalism is continuous with the way philosophers have examined ethics over the past three millennia. Ethical naturalism is not something radically new that came to the fore in the nineteenth century. Nevertheless, as we review in the next section, the publication of evolutionary theories did have a significant and long-lasting impact on ethical naturalism.

1.3 Evolutionary Ethics: Some Historical Notes

The publication of evolutionary theories gave rise to new developments in ethics. One of the main catalysts was Darwin (1871), which addresses the emergence of the moral faculty in humans as a result of natural selection. However, this was not the first work to address evolutionary ethics; pre-Darwinian evolutionary thinkers such as Herbert Spencer were inspired in their thinking about human behavior and psychology by earlier authors such as Jean-Baptiste Lamarck and Robert Chambers. Spencer situated psychology, ethics, and sociology within a broader evolutionary framework. His synthetic philosophy saw evolution as something governing the whole universe, not just biological evolution, but also how galaxies came about, and how human societies changed. His *Principles of Psychology* (1855), the earliest articulation of this generalized principle, predates the publication of the *Origin of Species* (Darwin, 1859); it was based on Lamarck's principle of inheritance of acquired characteristics.

The importance of *The Descent of Man* (Darwin, 1871) lies in its detailed account of the origins of human morality through a process of group selection that was entirely naturalistic, thus presenting an alternative to the at the time popular view that morality originates from God. Rather than present an exhaustive review of this

historical period, we will highlight a few examples of how Darwin's theory influenced theorizing about ethics in the late nineteenth and early twentieth centuries.

The German philosopher Paul Rée (1877) wrote an early evolutionary account of ethics that was clearly inspired by Darwin. He argued that humans possess two kinds of innate drives, self-regard and other-regard (Rée 1877, 1–7). Our other-regard is expressed in emotions such as pity (when things go badly for others) or happiness (when things go well for them). At times, our self-regard overshadows our other-regarding drive, for example, we might feel jealous when things go well for others, or schadenfreude when things go badly. The other-regarding sentiments explain why humans sometimes behave altruistically, but do not explain why we regard unselfish actions as good and selfish actions as bad. In Rée's view, morality results from an interaction of these evolved sentiments with culture. Rejecting moral realism, Rée argued that our judgments of good and evil can be ultimately traced back to judgments about what is good or bad for individuals, and these judgments are accorded a fundamental normative status. Through a process of cultural group selection (following Darwin, 1871), this gave rise to moral conceptions of good and evil which are acquired through learning (Rée 1877, 24). Groups where people thought that unselfishness is good and selfishness bad enjoyed a selective advantage over groups that did not hold this view, because members of the former could cooperate better (Rée 1877, 9). Rée's account foreshadows later error theory views on morality, notably by Richard Joyce (2006) and Michael Ruse (2010). Like these later error theorists, Rée (1877, 49) claimed that the emergence of morality was ultimately the result of errors: we erroneously perceive as mind-independent ethical judgments that don't exist independently from us or our experience. But it is also a helpful illusion: the illusion of good and evil helps us to cooperate better, and gives groups who have it an evolutionary advantage.

Russian scientists and philosophers were likewise intrigued by Darwinism and its implications for political theory and ethics. One sticking point for Russian intellectuals was the large influence of Malthusianism in Darwinism, notably the idea that evolution is propelled by competition and a struggle for scarce resources. Russian scientists from 1860 to the early 1900s, including Karl Kessler, Modest Bogdanov, Andrey Beketov, and Sergei Korzhinskii, criticized the Malthusian struggle for existence, arguing that this concept of struggle was confused, for instance, in its lack of distinction between different forms of competition, such as direct versus indirect and intraspecific versus interspecific competition. They also maintained that this Malthusian influence came from a socially insidious, faulty view on the bad effects of overpopulation among poor people, next to an unhealthy focus on competitions in English society (see Todes 1989 for an overview).

The Russian naturalist, economist, and anarchist political philosopher Pyotr Kropotkin (1902 [1989], 1924) outlined his own evolutionary ethics, stressing that humans have evolved dispositions that push them in two directions. On the one hand, we have a tendency that inclines us to be part of a community and to offer mutual aid; on the other hand, we have a propensity toward individual self-realization and freedom. Kropotkin did not think we need to achieve a compromise between these or to sacrifice one for the other; rather, societies ought to strive for a synthesis

between these two tendencies. He anticipated a theory akin to moral foundations theory (e.g., Graham et al. 2013), stipulating evolved tendencies as the basis for moral evaluative judgments and behaviors. These moral foundations consist of sociality (an innate sympathy, or tendency to see others as fundamentally like ourselves), magnanimity (which pushes us to help others, even at the expense of ourselves), and a desire for justice. Kropotkin saw sociality and magnanimity in self-sacrificial behavior that people sometimes display, e.g., "[T]he impulse of a man who plunges into a river (even though unable to swim) in order to save another… cannot be explained in any other way than by the recognition of one's equality with all others" (Kropotkin 1924, 245).

An important aspect of Kropotkin's ethics is its thoroughgoing naturalism. He agreed with Spencer (1855) that ethics constitutes "one of the divisions of the general philosophy of nature" (Kropotkin 1924, 289), and that it is a specialized domain of science. Like his compatriots, he disavowed Spencer's and Darwin's focus on the struggle for existence. Kropotkin posed the following challenge: if we agree that evolution selects only for those tendencies that are advantageous, we should expect that we get most gratification out of being selfish. However, this is not what we observe. Doing well for others gives us a sense of gratification, and this sense needs an evolutionary explanation: "do not the feelings of sociality and of mutual aid, from which gradually and inevitably our moral conceptions had to develop, – do not they constitute just as *fundamental a property* of human or even of animal nature, as the need of nourishment?" (Kropotkin 1924, 295, emphasis in original) Put differently, Kropotkin saw our altruistic tendencies as foundational for ethical life, something that he thought evolutionary theory (with its emphasis on struggle) could not sufficiently explain. His *Mutual aid* (1902 [1989]) argues for the central role of altruism in evolution: altruism and cooperation, rather than competition, drive evolution. Kropotkin (1902 [1989], chapter 2) gave many examples of mutual aid in nonhuman animals, for example, social birds mobbing predators, sentry-posting in social mammals and birds, and large nesting colonies. He also sketched how mutual aid is an important feature of human life, notably in cooperation in small-scale societies and in the medieval free city (Kropotkin, 1902 [1989], chapters 5 and 6). In his posthumously published *Ethics* (1924), he integrated this idea into his picture of evolutionary ethics. In this way, Kropotkin prefigured later discussions on the importance of non-zero-sum games in evolutionary ethics and evolutionary biology more broadly (e.g., Cronk and Leech 2013).

The main work that introduced late Qing dynasty Chinese intellectuals to evolutionary theory was not Darwin's *Origin of Species* (1859), nor his *Descent of Man* (1871), but *On Natural Evolution* (*Tianyan lun*, 天演論, *On Natural/Heavenly Evolution*), a compilation of writings by Herbert Spencer and Thomas Huxley, translated by Yan Fu and published in 1898. This work drew an intimate connection between evolutionary theory and social Darwinism, the idea that mechanisms of biological evolution also operate at a human societal level, and that this is desirable. Chinese intellectuals saw this play out among the western colonial powers competing with each other for influence in a struggle for existence, and they saw their own empire (China under the Qing dynasty) under threat and divided by more powerful

foreign nations. The initial preoccupation of Yan's work was not to make a distinction between Darwin, Huxley, Lamarck, and Spencer, but to search for a therapy to secure the survival of the Chinese empire and later republic, which had been threatened in the aftermath of a series of military and political catastrophes at the hands of western countries (Jin 2019, 124).

We will here focus on the reception of evolutionary theory by Chinese Buddhists of the period. Contrary to Christianity, Buddhism has no problem with the continuity between humans and other animals that evolution presupposes, and it has no problem with complexity arising out of natural processes, as it does not posit souls or a creator God. But Chinese Buddhists saw a serious incompatibility between Buddhist ethics and the ethics of social Darwinism, which they had come to see as roughly synonymous with evolutionary theory. The struggle for existence was perceived as deeply incompatible with the Buddhist striving to not cling to the self or possessions. In the 1920s and 1930s, Chinese Buddhists warmed to Kropotkin's version of evolutionary theory with its emphasis on mutual aid and cooperation, which was a better fit with Buddhist ethics. However, they did not think it went far enough because Kropotkin's view still required a self, and only when one recognized the emptiness of the self could one dedicate oneself entirely to helping others, as bodhisattvas do (Ritzinger, 2013).

In the Indian subcontinent, which was under British colonial rule during this period, authors discussed the ramifications of evolutionary theory both for Hinduism (whether factual claims in Hindu scriptures such as the Vedas were compatible with Darwinism), and for ethical theory. For example, Sri Aurobindo (1872–1950) set out to make evolutionary theory compatible with the Hindu theory of successive incarnations of Viṣṇu through avataric evolution (see De Smedt and De Cruz, 2020, 5–6, for discussion). He also criticized Darwinian theory for focusing too much on self-preservation of organisms at the expense of cooperation: "Because the struggle for survival, the impulse towards permanence is contradicted by the law of death, the individual life is compelled, and used, to secure permanence rather for its species than for itself; but this it cannot do without the co-operation of others; and the principle of co-operation and mutual help" (Aurobindo, 1914–1918 [2005]: 212).

Evolutionary ethics was a successful and multifaceted strand within the project of naturalizing ethics. Curiously, it provoked a backlash that led to an anti-naturalism in ethical theory that would dominate a lot of discussion throughout the twentieth century. One influential voice in this anti-naturalism was Henry Sidgwick (1876), who argued that it was unwarranted for evolutionary ethics to go beyond mere description. Much of his ire was directed at Spencer's notion that 'more evolved' would mean 'better' (including ethically better). As Sidgwick correctly pointed out, like other early evolutionary ethicists Spencer embraced a notion of progress, where evolution is "not merely a process from old to new, but also a progress from less to more of certain qualities or characteristics" (Sidgwick 1876, 56). Thus, it seems plausible that Spencer's evolutionary ethics can

> furnish a highly plausible explanation of the development of morality in a race of animals gregarious, sympathetic, and semi-rational – such as we may conceive man to have been in the præ-moral stage of his development. But I fail to see how we are thus helped to a solu-

> tion of the conflict between the Utilitarian and Intuitional schools of Ethics: in so far, that is, as either school professes to supply not merely a psychological explanation of human emotions, but an ethical theory of right conduct. (Sidgwick, 1876, 66)

In other words, Sidgwick thought it was problematic that evolutionary ethicists tried to use their theories to adjudicate between normative ethical theories. Later, he went as far as to disavow the study of evolutionary ethics entirely, or at least to relegate it to some field of inquiry outside of ethics: "it appears to me that the investigation of the historical antecedents of this cognition [morality], and of its relation to other elements of the mind, no more properly belongs to Ethics than the corresponding questions as to the cognition of Space belong to Geometry" (Sidgwick, 1907, v–vi).

Sidgwick's student, G.E. Moore, was influenced by this critique and formulated his concept of a naturalistic fallacy, specifically with evolutionary ethicists such as Spencer in mind. In Moore's view, we cannot identify the moral good with any natural property. The problem for any evolutionary ethicist who wants to go beyond the purely descriptive is what Moore termed the *open-question argument* (Moore, 1903, § 13): we can always ask whether a given act was good. If one can identify the good with, say, an evolved propensity to be altruistic, then asking "Is this altruistic act good?" would amount to "Is this altruistic act altruistic?", since – in this view – the good can be equated with altruism. But clearly, these questions are not equivalent. This led Moore to conclude that the good is a non-natural property that cannot be empirically or scientifically tested or verified. David Hume's (1739–40 [2007], T3.1.1.27) principle that one cannot derive an *is* from an *ought* is sometimes seen as a precursor to Moore's formulation of the naturalistic fallacy. However, these are two quite distinct claims. Hume claimed that we cannot derive a normative claim from a factual claim, at least not without using some bridge principles. In contrast, Moore claimed that we cannot draw moral conclusions from non-moral principles, even when using bridge principles. The reason why we can't use them, according to Moore, is that he somehow believed such principles weren't available (Pigden, 2019, 75).

1.4 Evolutionary Ethics Today

Although one can conceptualize evolutionary ethics today as a continuation of the earlier wave, there are two key differences: better empirical testing and better theory. We now have access to much better empirical evidence than earlier evolutionary ethicists. For example, authors such as Darwin and Rée could only speculate about human origins. Contemporary authors can draw on a wealth of archaeological, molecular, and other data about the origins of our species. Episodic observations of non-human animals, often anecdotal in character, are now replaced by detailed field observations of primates in the wild and carefully controlled laboratory studies. Earlier evolutionary ethicists hardly had access to anthropological

data, and what they had was often unreliable hearsay and distorted reports from travelers and colonists. Today, we can draw on a much broader range of evidence, not only in anthropology, but also in other disciplines that are relevant to the study of morality, such as developmental psychology and neuroscience. A number of present-day ethicists also gather their own evidence. For example, experimental philosophical studies survey people about their ethical intuitions, Knobe (2003) and Schwitzgebel and Cushman (2012) being two seminal papers in this expanding field.

Next to this, evolutionary theory is in a much better position today. Earlier evolutionary theory struggled with several issues, such as the extent to which group selection is a driving force in evolution, the question of whether evolution is inherently progressive (many earlier evolutionary ethicists assumed it was), and the frustrating lack of theory on how traits are transmitted from one generation to the next. While these topics continue to be debated, much of this confusion was resolved with the modern synthesis and later theorizing that clarified the notion of different kinds of altruism, including reproductive altruism (toward kin), reciprocal altruism (also toward non-kin), and indirect reciprocity. The extended evolutionary synthesis adds to the predominantly gene-centric view of standard evolutionary theory the importance of ontogeny and of non-genetic inheritance mechanisms in evolution (Laland et al., 2015).

Pioneers of the new wave of evolutionary ethics include evolutionary theorists, biologists, and philosophers such as E.O. Wilson (1975) and Elliott Sober and David Sloan Wilson (1998). This work continues with fruitful explorations of, for example, the role of cultural group selection in the evolution of morality (e.g., Tomasello, 2016). As in the previous wave of evolutionary ethics, the contemporary investigation into the evolution of morality is a multi-faceted debate that is often interdisciplinary. Unfortunately, many philosophers do not engage with the empirical research and do not appear to keep abreast of the latest findings. This reluctance to make their hands dirty leaves a lot of philosophical discussion stuck in high-level generalizations about morality that do not come to grips with the questions of how it evolved in our species, or what the implications of this might be for ethics. The present volume aims to constructively address this situation.

1.5 The Present Volume

As the title of our volume *Empirically Engaged Evolutionary Ethics* indicates, our contributors get into the details of evolutionary ethics, engaging with recent insights from evolutionary theory and other empirical work, while also examining the philosophical implications of these findings for ethics. The papers in this volume present a range of ideas in evolutionary ethics, going beyond the high-level debates that characterize a lot of philosophical discussion. The contributions to this volume can be categorized roughly as follows: Part I focuses on the nuts and bolts of how the sciences can shed light on claims in evolutionary ethics, engaging with developmental psychology, cognitive psychology, and primatology. Part II examines

evolutionary explanations of morality and their implications for meta-ethical debates. Part III considers the role of cultural evolution in discussions about evolutionary ethics.

The papers in Part I focus on empirical and interdisciplinary approaches in evolutionary ethics. Gordon Ingram and Camilo Moreno-Romero address the implications of developmental psychology for evolutionary ethics. Recently, cognitive scientists have paid a lot of attention to dual process theories that distinguish between fast, automatic, and evolved impulses (type-1 processes) and more slow, deliberate forms of reasoning (type-2 processes). Such theories often pose a conflict between type-1 and type-2 processes: our speedier, intuitive moral judgments are said to be in conflict with our more deliberate thoughts. However, drawing on their own work as developmental psychologists and on a wide range of studies, Ingram and Moreno-Romero show that this is an oversimplification: to properly understand adult moral cognition, one needs to examine ontogenetic pathways that develop in children as they mature. This chapter provides an overview of recent theories of dual-type processing and morality, particularly in developmental psychology, and looks at some objections to applying this framework to moral psychology. Central in this discussion is the outcome-to-intent shift, a transition in children's reliance on more automatic processes to controlled, explicit reasoning processes, a shift already described by Jean Piaget. Prior to age eight or nine, children tend to rely on the outcome, rather than the perceived intention of an action in their moral evaluation, whereas older children consider whether a harmful action was done intentionally or accidentally. However, recent developmental evidence indicates that children already from an early age can take intent into account, and that the relative importance of outcome versus intent depends on situational context (e.g., whether the agent will be punished), as well as on cultural context (with more emphasis on intent in urban USA and rural Europe than in many other parts of the world). Rather than seeing type-1 processes as relics of an evolved past, Ingram and Moreno-Romero show that type-1 processes can also be learned, and that individual, situational, and cultural variation play a significant role in which of these processes wins out.

Neil Levy applies insights from cognitive psychology and evolutionary theory to consider the problem of hypocrisy. People are apt to change their beliefs in line with the prevailing political climate, leaving them open to the charge of hypocrisy. However, Levy argues that humans are very sensitive to external cues when they form and update beliefs. For example, we are subject to prestige bias, a heuristic that inclines us to believe what prestigious members of a group one identifies with believe. As a result, our internal representations are relatively sparse. We may not even notice when we update our internal representations as a result of external cues from our social environment – hence, what can easily be interpreted as hypocrisy is in reality the result of a reconstructive process where we do not notice that our internal, sparse representations are brought in line with social cues.

James Harrod examines the curious case of chimpanzee stone accumulations in West Africa. Studying chimpanzees is relevant for our understanding of the evolution of morality, given that they (together with bonobos) are our closest extant

relatives. Chimpanzees live in complex social groups which have sophisticated social norms that involve such behaviors as social alliance building, mutual aid, and the removal of abusive dominant individuals. They also show a range of morally relevant emotions such as guilt and shame. However, debate continues on whether chimpanzee behavior can be described as moral. Harrod considers the following behavior in the context of evolutionary ethics: while showing a number of social displays, chimpanzees hurl stones at certain trees, resulting in stone accumulations. Rejecting the hypothesis that these stone accumulations are proto-religious behavior, he instead proposes that they are the result of rituals with moral significance: they involve inhibiting and redirecting a victim's retaliatory aggression into a creative ritual performance. Instead of attacking a lower-ranked individual to retaliate against inequity, abuse, or harm suffered at the hands of a powerful conspecific, retaliatory aggression is redirected toward an inanimate object: a tree where the stones resulting from such a performance accumulate over time.

The contributions to Part II examine how moral cognition might have evolved, what kinds of selective pressures might have led to it, and which broader philosophical implications we can draw from this. Marcus Arvan considers neuroscientific evidence for moral cognition which has expanded significantly in the past few decades. He interprets this evidence as showing that morality originates from cognitive adaptations that help us engage in prudential risk-aversion. Prudence is making instrumentally optimal choices that help our lives go well. Adaptations underlying prudence include mental time travel (which helps us foresee the consequences of potential actions), risk aversion, and taking the perspective of others. In seeing prudence as the root of morality, Arvan defends a broadly Hobbesian view. According to Hobbes (1651), moral cognition is not instilled in us biologically, but is the result of sociocultural norms that instill patterns of social reward and punishment. Arvan agrees, clarifying that prudence has been biologically selected for, while morality is a cultural exaptation: a learned and culturally-transmitted behavior that draws on the older biological adaptations underlying prudence.

Estelle Palao considers the relevance of normativity in non-human animals for the study of human morality. Normativity is a key element in the evolution of morality. In her view, to explain how morality evolved in our species, we need to investigate how the broader propensity for following norms evolved. She conceives of moral norms as a subset of broader social norms, where normativity means the ability to decide which behavior to adopt within a social context. Non-human animals have normativity in this broader sense, for example, chimpanzees are driven by norms about reciprocity in social exchanges such as grooming. Moreover, a wide range of animals (including primates, cetaceans, and birds) use tools, and normativity lies at the basis of learning how to make and use tools. Animals are capable of evaluating their individual experiences in the light of behavioral information they acquire socially, and they use such evaluations to conform their behavior to patterns of doing things within their group. Palao uses this broad normative framework to argue that morality is an exaptation that arises from normativity.

Alejandro Rosas takes aim at debunking arguments against morality. Very often, such debunking arguments do not only seek to undermine moral objectivity, but

morality more broadly. Authors such as Richard Joyce (2006) have proposed that humans are tricked into believing, through an evolved projection mechanism, that moral properties such as good or bad, or moral actions, characters, and rules, exist independently from our minds. Thus, by providing an evolutionary explanation of our sense of moral authority without postulating objective moral properties or rules, debunkers think they have thereby also undermined moral authority. Rosas explores an alternative to this debunking strategy: he argues that the authority of moral injunctions we feel can be explained without having to posit a projection mechanism. In his view, moral obligations can have an authority over desires directed solely at satisfying our individual well-being when they conflict in particular ways with the interests of others or of the group we belong to. Rosas shows that Darwin developed a Kantian account along these lines of the subjective experience of moral authority in his attempt to naturalize morality.

Part III looks at the importance of cultural evolution for evolutionary ethics. Andrés Carlos Luco examines Darwin's notion of extended benevolence. Darwin (1871) anticipated that the human capacity for sympathy would eventually extend to all nations, all human beings, and even all sentient beings. He hypothesized that the moral sense evolved through group selection, which for him was a form of natural selection, as follows. Social instincts such as sympathy help animals to cooperate. Some animals acquire the ability to further deliberate on past actions when social instincts conflict with self-preservation, leading to more sophisticated social emotions such as regret and shame. In the human lineage, language was added to these emotions, which together with social emulation helped humans to learn sophisticated social norms, and eventually, to reason. Building on Darwin, Luco argues that extended benevolence is the outcome of cultural evolution, which we can witness in the rise of democracies, laws to protect animal welfare, and women's rights. He draws on sociological findings to show a strong correlation between these extensions of benevolence, arguing they owe their existence in large part to emancipative values, which he describes as normative attitudes. Luco next advances a cultural evolutionary explanation for the spread of these values: rituals and other cultural practices facilitate the cultural evolution of extended benevolence, helping people to make more contact with otherwise distant others and to take their perspective.

Matthew Braddock focuses on the implications of the cultural evolution of moral norms for debunking arguments against moral realism, and the implications of this for theism. He argues that unguided cultural evolution could easily have led humans to moral norms and judgments that are mostly false by our current lights. Braddock allows for the fact that evolution through natural selection has likely instilled some moral norms that are fairly robust in the natural world, such as "killing one's own offspring is bad," but that practices such as infanticide indicate their cultural malleability. Therefore, if we consider nearby possible worlds where there are slight variations in cultural evolutionary processes, it seems plausible that human beings in such worlds would end up with quite different moral norms, even if we keep their evolved cognitive capacities constant. A moral objectivist would have to allow that we are very lucky that we ended up with the moral norms we have, rather than with different ones that we would not accept by our present lights. In contrast, Braddock

points out that if we take (Christian) theism rather than naturalism as our starting point, we should not be surprised by our basic moral reliability. He cites three reasons for this: divine omnibenevolence, *imago Dei* (humans are created in God's image), and tradition-specific claims that humans have a basic moral sense, which God has instilled in us.

Alfredo Robles-Zamora shows which directions evolutionary ethics can take if applied to a Latin American context, specifically, the concept of Mesoamerican cosmovision. Cosmovision is what enables and conditions our experience and interpretations of the world through practices, which involve forms of tacit knowledge that can be transmitted between generations. Cosmovision can be integrated in the evolutionary extended synthesis, notably in niche construction, which emphasizes the importance of transmission processes that are not purely genetic. Drawing on this framework, Robles-Zamora hypothesizes that the cosmovision of historical Mesoamerican cultures contains a nucleus of practices and relations shared by these cultures that have retained some stability over several thousands of years. The cultural evolution of morality can be seen in this context. In Mesoamerican cultures, we find moral systems that not only guide behavior across societies, but also the interactions with the environment, which have persisted in spite of colonization and missionization.

Our volume, both by the geographic diversity of its authors and their engagement with a range of different disciplines, shows that evolutionary ethics benefits from a fruitful exchange with diverse cultural contexts and methodological approaches.

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