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*Methods of Ethics and the Descent of Man:
Darwin and Sidgwick on Ethics and Evolution*

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1. Darwin, Evolution and Ethics

Darwin's writings on ethics and evolution have generated a wide variety of responses among moral philosophers. In this paper, I shall focus on responses by moral philosophers to the question of whether the application of Darwin's theory of natural selection to the moral faculty gives us any reason to question the epistemic credentials of our ethical beliefs.¹

¹ I shall be using the term 'epistemic credentials' throughout this paper to signify the status an ethical belief has to the extent that it merits our *confidence* as a *judgement*. I shall take this understanding of epistemic credentials to be relatively neutral with respect to i) the metaphysical question of what in the world (such as the existence of moral or other facts) would ultimately explain such credibility as our ethical beliefs may have, and ii) any purely pragmatic value (such as making its holder feel better about him or herself) that may be associated with holding any individual ethical belief. For further discussion of the issues mentioned in i) and ii), see Lillehammer 2003 and Street 2006).

In *The Descent of Man* (1872) Darwin extends his account of the development of inherited traits due to differences in past reproductive success to the moral faculty of humans. This obvious extension of the theory of natural selection provoked strong reactions among Darwin's Victorian contemporaries. Thus, Frances Cobbe, writing in the year after the first publication of *The Descent*, claims that Darwin's hypothesis is among 'the most dangerous... which have ever been set forth since the days of Mandeville' (Cobbe 1872; quoted in Joyce 2005, 229).² According to Cobbe, the application of the theory of natural selection to the moral faculty sounds 'the knell of the virtue of humanity' (quoted in Darwin 2004, 123). More recently, Cobbe's response has been endorsed in some form or other by R. D. Alexander 1987, Michael Ruse 1995, Robert Wright 1994, and Richard Joyce 2005, among others. Cobbe, of course, rejects Darwin's theory, and thereby also its allegedly skeptical conclusions for ethical thought. Many later writers, including those just cited, have tended to endorse a Darwinian account, and therefore also the skeptical implications it allegedly has. In this paper I shall not question the plausibility of the hypothesis that natural selection explains the existence and nature

² The reference to Mandeville is apposite in the context of Darwin's appeal to an imaginary example of human beings 'reared under precisely the same condition as bee-hives' (Darwin 2004, 122). In his early 18th Century work *The Fable of the Bees*, Mandeville had depicted a society of purely self-interested bees bound together in a mutually beneficial system of social cooperation by means of what we now know as an 'invisible hand' mechanism. I return to Darwin's example of the bees and its possible interpretations below.

of the moral faculty in humans.. I shall, however, say something about how, and why, there has been so much controversy about the implication of Darwin's theory for the epistemic credentials of our ethical beliefs.

Darwin himself rejected the skeptical implications of his theory for ethics. Writing in the second edition of *the Descent*, he suggests that 'it is to be hoped that the belief in the permanence of virtue on this earth is not held by many persons on so weak a tenure' (2004, 123). More recently, an ecumenical view along similar lines has been endorsed in some form or other by moral philosophers such as Peter Singer 1981, Philip Kitcher 2003, and Elliott Sober 1994, and others. Is this ecumenical response defensible? What must the commitments embodied in ethical thought be like if it is? These questions are the main focus of my discussion in what follows.

I shall approach the significance for ethical thought of Darwin's account of the evolution of the moral faculty through the lens of his 19th Century contemporary Henry Sidgwick, the last (and arguably the greatest) of the British Utilitarians. This choice of approach is not based on a hypothesis that either Darwin or Sidgwick was deeply engaged with the work of the other. In fact, the contrary is arguably the case (even if the two repeatedly 'crossed paths' as members of the same Victorian academic elite (c.f. Schultz 2004)). My reasons for using the case of Sidgwick to approach the challenge presented by Darwin is twofold. First, I will show that Sidgwick's theoretical framework illuminates the philosophical significance of Darwin's work in a way that makes good sense of its historical context, both as conceived in England in the latter half of the 19th Century and

as absorbed by a tradition of English speaking moral philosophy that continues throughout the 20th Century (c.f. Hurka 2003). Sidgwick is especially illuminating in this respect because of the systematic way in which his moral philosophy is worked out in comparison with that of some of his most prominent 19th Century contemporaries, including his fellow utilitarian John Stuart Mill. Second, Sidgwick's framework arguably provides a blueprint for the way in which much of English speaking moral philosophy is still practiced to this day (c.f. Rawls 1970; Parfit 1984). If so, understanding Sidgwick's response to Darwin is illuminating also from a contemporary perspective, given the extent to which the implications of Darwin's theory for ethical thought continues to generate philosophical controversy. Indeed, it might be suggested that Sidgwick's response to Darwin provides a perfect illustration not only of how mainstream English speaking moral philosophy was to be approached during much of the 20th Century, but also of what was wrong with approaching it that way. That, however, is a different story.

2. Darwin and Sidgwick on ethics and evolution: a thumbnail sketch

The historical connections between Darwin and Sidgwick's writings on ethics and evolution are as follows.

Darwin's *Descent* was first published in 1871, with four further and revised editions appearing until 1879. One of Darwin's main philosophical targets in this book is James Mackintosh, and his claim that the human motives of personal and impersonal good can only be traced to a divine source (c.f. Schneewind 1977, 152; Richards 1987, 240).

According to Darwin, the theory of evolution explains how these motives could have originated in Nature, thus making any invocation of a divine origin otiose (Darwin 2004, 120-3). As we shall see below, Sidgwick is curiously dismissive of the ethical significance of this dispute about causal or explanatory origins of the moral faculty (Sidgwick 2000, 12).

There are two references to Sidgwick in the footnotes from the first revised edition of *The Descent* onwards. The first is a reference to what Darwin calls ‘an able discussion on this subject’ by Sidgwick in his 1872 review of the book in which Frances Cobbe lays into Darwin for imposing on the world his now infamous ‘dangerous idea’ (Cobbe 1872; Sidgwick 1872). In this review, Sidgwick makes a number of critical remarks about Darwin’s thought experiment (targeted by Cobbe) of an imaginary society of humans bred in bee-hives (Darwin 2004, 122-3). I shall return to this example below. The second is a reference to a paper called ‘Pleasure and Desire’, also from 1872, in which Sidgwick rejects the claim that all conscious human impulses are directed toward some form of pleasurable sensation (Darwin 2004, 144; c.f. Sidgwick 2000, 79-88). Darwin agrees with Sidgwick’s rejection of psychological hedonism in that paper. In doing so, he invokes a distinction between what he calls ‘the standard’ and ‘the motive’ of conduct (Darwin 2004, 144). A close analogue of this Darwinian distinction plays a crucial role also for Sidgwick, and for broadly similar reasons. Darwin and Sidgwick both agree that the most effective way to promote some good (the standard) is not always to aim at it (the motive), but instead to focus on subsidiary ends and principles, such as material wealth or the so-called ‘golden rule’ (of which more below). Where Darwin parts company with Sidgwick

is where he appears to reject the latter's hedonistic Utilitarianism, preferring as his 'standard of morality the general good or welfare of the community rather than the general happiness'. Instead, Darwin identifies the general good with 'the greatest number of individuals in full vigour and health, with all their faculties perfect', (Darwin 2004, 145; c.f. Lewens 2007, 167-71).³ He also explicitly contemplates the likelihood of our reasonable sympathies being potentially 'extended as far as all sentient beings' (Darwin 2004, 145; 147; c.f. Singer 1981). Sidgwick, by contrast, favours 'maximum happiness', understood along broadly hedonist lines, as the only 'serviceable criterion of good' (Sidgwick 2000, 248). Against the Darwinian position, he argues that the relativization of general good to communities or the perfection of a creature's faculties (whatever they may be) fails to distinguish between 'higher' and 'lower' forms of existence (Sidgwick 2000, 16; c.f. Darwin 2004, 145-7). These differences aside, it is possible without undue anachronism to read both Darwin and Sidgwick as 19th Century precursors of contemporary two-level consequentialism.

Sidgwick first published *The Methods of Ethics* in 1874, with six further editions until the seventh (and now standard) posthumous edition of 1907. It is a salient fact (and one that has gone largely unnoticed among contemporary commentators) that there is not a

³ According to R. J. Richards, Darwin made an extensive study of Mill's utilitarianism prior to publishing *The Descent*. It is therefore arguably Mill who should be seen as the main target of Darwin's argument at this point (see Richards 1987, 234-41).

single reference to Darwin's work in *The Methods*.⁴ However, Darwin's account of the evolution of the moral faculty does get an explicit mention in three papers published by Sidgwick both before and after the first publication of his most important book. First, there is the aforementioned review of Cobbe in 1872. Second, Darwin is explicitly discussed in Sidgwick's contribution to the inaugural issue of the leading British philosophy journal *Mind* in 1876, in a paper entitled 'The Theory of Evolution and its Application to Practice'. In this paper, Sidgwick considers the theory of natural selection in terms of what he calls 'the accumulation of... slight differences'. He claims that 'the theory of Evolution, thus widely understood, has little or no bearing upon ethics' (Sidgwick 2000, 11). I shall return to this claim below. Third, Darwin appears again in Sidgwick's paper 'Hedonism and Ultimate good', published in 1877 (Sidgwick 2000, 89-98). In this paper, Sidgwick rejects as in 'irreconcilable conflict with common sense' any evolutionary criterion of ultimate good captured by the aim of 'being with the promise of future being'; a commitment to which he attributes to 'one of Mr. Darwin's disciples', Mr. Frederick Pollock (Sidgwick 2000, 94). In fact, Sidgwick had already discussed and rejected this criterion of ultimate good in his 1876 paper (Sidgwick 2000, 16-17). There

⁴ Sidgwick devotes a small amount of space in later editions of *The Methods* to criticism of the 'the evolutionary ethics' of Herbert Spencer and Leslie Stephen (Sidgwick 1907, ix; 469-474). These criticisms do not touch on the main questions at issue between Sidgwick and Darwin discussed in this paper.

is no textual evidence that Sidgwick is under any illusion that this alleged criterion of ultimate good can be attributed to Darwin. I shall therefore set this dispute aside.⁵

3. *The Skeptical Challenge*

Skeptical challenges often appeal to counterfactual claims about what our beliefs would be like in different possible situations. The challenge I discuss here, and which goes to the heart of Sidgwick's response to Darwin, is a challenge of this kind. The challenge in question questions the epistemic credibility of our ethical beliefs by pointing out that we would have had very different beliefs if certain things about us had been different, even supposing the relevant ethical facts to remain the same.⁶ I shall refer to this challenge as the *Contingency Challenge*. The contingency challenge should be distinguished from a second skeptical challenge that questions the epistemic credibility of our beliefs by

⁵ On the basis of this evidence, it may be asked if Sidgwick actually ever studied *The Descent of Man* itself, or whether his knowledge of it was either mainly or exclusively second-hand. The texts I have been able to consult fail to unequivocally answer that question.

⁶ As previously noted, the discussion that follows need not be read so as to presuppose a commitment to any philosophically interesting ontology of moral facts. It is heuristically useful to talk loosely in terms of moral facts in this connection, given a shared commitment to at least some comparative sense of epistemic credibility for ethical beliefs by all sides in the parallel debate in moral metaphysics (c.f. Blackburn 1998; Putnam 2004).

appealing to the fact that there are circumstances in which we would still have these beliefs even if they were mistaken. I shall refer to this other challenge as the *Inflexibility Challenge*. Although the contingency and inflexibility challenges are logically distinct, they are targeted at complementary aspects of the same kind of failure, namely the failure of beliefs to bear a reliable connection to their factual grounds. I shall refer to this wider phenomenon as *Tracking Failure*. It is widely, if not universally, accepted that tracking failure would impugn the epistemic credibility of our ethical beliefs and that evolutionary considerations are in some sense relevant to whether or not our ethical beliefs are vulnerable to it (c.f. Ruse & Wilson 1986; Kitcher 1994; Sober 1994; Joyce 2005; Street 2006). In this paper, I shall simply assume that this consensus is correct. Working on that assumption, I shall be principally concerned with the question how Darwin and Sidgwick understand and respond to the contingency challenge.

The contingency challenge to the epistemic credibility of our ethical beliefs is based on the empirical claim that *if we had evolved differently, we would have had different ethical beliefs*. More precisely, given a change in circumstances external to human individuals, the evolution of both physical and psychological features in those individuals would be different (the causal influence arguably goes both ways). Given a change in both external, and physical and psychological, circumstances of individuals, the evolution of ethical beliefs in those individuals would be different.⁷ Therefore, given a change in the

⁷ Relative to our ethical beliefs, our evolutionary circumstances (excluding those beliefs) must be taken to include factors both external and internal to the individual.

circumstances of human evolution, the ethical beliefs of human individuals would be different.

Darwin formulates a version of the contingency challenge in *The Descent*, when he writes:

‘If... men were reared under precisely the same conditions as bee-hives, there can hardly be any doubt that our unmarried females would, like worker bees, think it a sacred duty to kill their brothers, and mothers would strive to kill their fertile daughters; and no one would think of interfering’ (Darwin 2004, 122).⁸

In her ‘Darwinism in Morals’, Cobbe responds to Darwin that accepting this thought experiment on its own terms would make a complete mockery of the epistemic credibility of our ethical beliefs. According to Cobbe, Darwin’s explanation of conscience,

‘aims a... deadly blow at ethics, by affirming that, not only has our moral sense come to us from a source commanding no special respect, but that it answers to no external or durable, not to say universal or eternal, reality, and it is merely tentative and provisional, the provincial prejudice, as we may describe it, of this little world and its temporary inhabitants, which would be looked upon with a smile of derision

⁸ In this passage, Darwin does not distinguish between evolutionary circumstances external and internal to the individual. I return to this indeterminacy in Darwin’s description of the evolution of our ethical beliefs below.

by better-informed people now residing on Mars.’ (Cobbe 1872, 10-11; quoted in Joyce 2005, 229).

The message implied in this passage is that unless our ethical beliefs derive from a less contingent source than a process of natural selection, the apparent normative authority of ethical claims that manifests itself in ethical thought as in some sense objective, inescapable or necessary is little more than a contingent, fickle, and provincial prejudice. The obvious alternative is one that Darwin has explicitly discounted in *The Descent*, writing that ‘[w]e may... reject the belief, lately insisted upon by some writers, that the abhorrence of incest [for example] is due to our possessing a special God-implemented conscience’ (Darwin 2004, 140). According to Cobbe, the inevitable consequence of discounting this alternative hypothesis is the epistemological and metaphysical debunking of the entire human moral faculty.

In the revised edition of *The Descent*, Darwin responds to Cobbe’s skeptical challenge. His reply is that Cobbe ‘overlooks the fact, which she would doubtless admit, that the instincts of the bee have been acquired for the good of the community’ (Darwin 2004, 122). According to Darwin’s own ‘criterion’ of morality, the bees are arguably entitled to their ethics, just as we humans are to ours. Different circumstances in, different (epistemically credible) ethical beliefs out. This all seems quite plausible at the right level of generality. Yet as formulated by Darwin in *The Descent* it is not obviously a good response to the contingency challenge. To see why, it is useful to consider a passage from the revised edition of *The Descent* where Darwin responds to Sidgwick’s discussion of

the bees in Sidgwick's review of Cobbe's book. Seeking to steer an ecumenical course, Sidgwick suggests in his review that 'a superior bee, we may feel sure, would aspire to a milder solution of the population question' (quoted in Darwin 2004, 122). Darwin responds to Sidgwick's 'whiggish' optimism by pointing to 'the habits of many or most savages', which show that 'man solves the problem by female infanticide, polyandry and promiscuous intercourse; therefore it may well be doubted whether it would be by a milder method' (Darwin 2004, 122). In saying this, Darwin inadvertently appears to make things more complicated for his own response to Cobbe's challenge. For unless he can show that these savage practices have not been acquired for the good of the community (and he does not), he is forced by the logic of his argument to approve of them. Yet at least with respect to female infanticide, it is not clear that he either would or should (contemporary readers might think the answer is less obvious in the case of polyandry and promiscuous intercourse). In this respect, Darwin, Cobbe and Sidgwick would probably agree. It follows that Cobbe's challenge remains unanswered by Darwin in one crucial respect, namely regarding when, and why, we should take a change in circumstances to justify a change in our ethical beliefs (c.f. Darwin 2004, 120).

In a recent book on the evolution of morality, Richard Joyce picks up on this dispute and ends up siding with Cobbe. Joyce writes:

'It remains obscure why Darwin thinks that the moral sense, when shaped by the particular cultural trajectory of the British Empire, results in moral opinions that are *true* or *justified* – even if he is correct that these are the opinions that humans living

in large social groups will eventually light upon... Does it mean that the imaginary bee-creatures' fratricide would be *irrational*?' (Joyce 2005, 229).

Joyce's take on the contingency challenge can be formulated as follows. Suppose that fratricide is wrong and we believe it is. It is natural to think that if fratricide is wrong, then it is wrong even if we all came to think it is not wrong. The theory of natural selection tells us that had we evolved differently we would all think fratricide is not wrong. It follows that evolution is an unreliable mechanism for the generation of correct ethical beliefs. We therefore have no reason to be confident in our ethical beliefs unless they are shown to be derived from a more reliable mechanism. Enter Cobbe, Mackintosh & Co with their alternative sourcing of the moral faculty in God's all-powerful and benevolent will.⁹

We can read Sidgwick as addressing a version of the contingency challenge in his 1876 *Mind* paper. Taking as his target the dispute between Darwinians and their theist opponents about the derivation of the moral faculty from evolutionary or Divine origins, Sidgwick writes:

⁹ In fact, the textual evidence points away from the claim that Darwin would accuse the imaginary bee-creatures of being 'irrational'. On the contrary, it would seem that much of their 'moral sense' (possibly including their approval of fratricide) would meet with approval by a 'criterion' of morality based on 'the good of the community'. Supposing that even in these circumstances fratricide would be wrong, Joyce is nevertheless right that Darwin's response to Cobbe offers few hints as to how this could be.

‘[A]ll the competing and conflicting moral principles that men have anywhere assumed must be equally derivative: and the mere recognition of their derivativeness cannot supply us with any criterion for distinguishing true moral principles from false. It is perhaps more natural to think that this recognition must influence the mind in the direction of a general scepticism’ (Sidgwick 2000, 12; c.f. Singer 2005).

Sidgwick immediately goes on to dismiss this skeptical challenge, by means of a so-called ‘companions in guilt’ argument (c.f. Lillehammer 2007). He writes:

‘[S]urely there can be no reason why we should single out for distrust the enunciations of the moral faculty, merely because it is the outcome of a long process of development. Such a line of argument would leave us with no faculty stable and trustworthy: and would therefore destroy its own premises’ (Sidgwick 2000, 12).

To apply Sidgwick’s argument explicitly to the contingency challenge: if our ethical beliefs are undermined by the fact that they are products of a long process of natural selection, then so is any belief that is the product of a long process of natural selection. Yet if Darwin is right, all our beliefs are the products of a long process of natural selection, including ‘some of our most secure intellectual possessions... (such as those of higher mathematics) of which the apprehension was not attained until long after the

moral faculty was in full play' (Sidgwick 2000, 12). So either natural selection undermines the epistemic credibility of all our beliefs or it does not undermine the epistemic credibility of our ethical beliefs. The former claim is evidently absurd. So natural selection does not undermine the epistemic credibility of our ethical beliefs.

Sidgwick's response in this passage is a powerful one. Even so, it is too good to be true. The key contention embodied in the contingency challenge is not that our ethical beliefs are the product of a long process of development, such as natural selection. It is that the theory of natural selection implies that the content of our ethical beliefs depends on contingent facts about our evolution in such a way that they could (too) easily have been very (and abominably) different. It is therefore open to reasonable doubt whether these beliefs have the kind of sensitive connection to their factual grounds that is necessary for them to be epistemically credible. In this way, our ethical beliefs might reasonably be thought to differ from other beliefs, such as beliefs about elementary mathematics or the sensible properties of medium sized dry goods, which it is natural to think would remain constant across a wider range of our evolutionary possibilities due to their indispensability in guiding us through the natural world. Thus, in giving the contingency challenge such short shrift, Sidgwick seems to have missed the point.¹⁰

¹⁰ Sidgwick arguably concedes as much when he writes in a later paper that 'if... an apparently self-evident proposition is to be discredited on account of its derivation, it must be because...it can be shown from experience that these particular antecedents are more likely to produce a false belief than a true one' (Sidgwick 2000, 34). He then adds: 'I do not seem to remember to have seen it systematically attempted'.

4. *Answering the Skeptical Challenge*

In fact, Sidgwick has another defense against the contingency challenge. This defense can be constructed from materials embodied in the theoretical framework he develops and defends in *The Methods of Ethics*. In this book, Sidgwick claims to establish at least three ‘intuitive propositions of real clearness and certainty’ for ethics, ‘the truth of which when they are explicitly stated, are manifest’, or self-evident (Sidgwick 1907, 373; 379). These propositions include: 1) that ‘one ought to aim at one’s own good’ (Sidgwick 1907, 380-1); 2) that ‘the good of any one individual is of no more importance, from the point of view... of the Universe, than the good of any other’ (Sidgwick 1907, 382); and 3) that there ought to be ‘impartiality in the application of general rules’ (Sidgwick 1907, 380-1).¹¹ According to Sidgwick, these basic axioms of ‘Prudence’, ‘Rational Benevolence’ and ‘Justice’ constitute a rational synthesis of the genuine insights embodied in common sense ethical notions such as counsels of prudence, the principle of utility, and the so-called ‘golden rule’ (Sidgwick 1907, 379-80).¹² I shall refer to this way of grounding the epistemic credentials of our ethical beliefs as the *Axiomatic View*.

¹¹ In his 1876 paper Sidgwick puts forward only 1) and 2) as his basic ethical principles (Sidgwick 2000, 16-17). I shall not pursue the significance of this fact further here.

¹² In *The Descent*, Darwin describes the so-called ‘golden rule’ as ‘the foundation-stone of morality’ (Darwin 2004, 157). He gives two, non-equivalent, formulations of the ‘golden rule’. The first formulation is: ‘as ye would that men should do to you, do ye them likewise’ (Darwin 2004, 151). As Sidgwick points out, this formulation leaves

The axiomatic view is not explicitly defended in the 1876 paper where Sidgwick responds to the contingency challenge. It is, however, clearly at work in a passage where he denounces what he regards as a misguided interest of ‘English ethical thought’ in the ‘origin of the moral faculty’. Sidgwick attributes the origin of this interest to Joseph Butler’s account of the moral conscience as a ‘spring of action claiming a peculiar kind of authority, the validity [of which]... seemed to depend on the assumption of an original legitimate constitution of human nature’ (Sidgwick 2000, 12). It is, of course, this very interest that informs the sourcing of moral conscience in the Divine will on the part of Mackintosh, Cobbe and other opponents of Darwin’s theory. Sidgwick urges us to move away from this dispute about origins towards a different way of thinking about moral epistemology. According to Sidgwick, the moral conscience is best understood as a faculty of ‘intuition’, or ‘rational apprehension of objective right or wrong’ (Sidgwick 2000, 12). If we are able to understand our moral conscience this way, Sidgwick claims, ‘the history of these intuitions could seem of no more importance... than the history of

morality hostage to the destructive instincts of those who wish themselves harm (Sidgwick 1907, 379-80). Darwin’s other formulation (and the one he explicitly identifies as ‘the foundation-stone of morality’) is: ‘To do good onto others – to do unto others as ye would they should do onto you’ (Darwin 2004, 157). According to Sidgwick, this claim does embody a fundamental ethical insight, but one that is analyzable in terms of his three intuitive propositions of real clearness and certainty.

our perception of space is to the geometer as such' (Sidgwick 2000, 12).¹³ It is possibly in this spirit that we should read Sidgwick's otherwise obscure claim later in the same paper that 'the term 'evolution' naturally suggests... a process... that brings into continually greater actuality... a certain form or type... which is conceived as having had a latent existence at the outset' (Sidgwick 2000, 13).

The analogy between ethics and mathematics is suggestive of a version of the axiomatic view according to which the basic axioms of ethical thought are in some sense necessary and knowable *a priori*. His attraction to view, combined with his rejection of the alternative he associates with Butler, would go some way to explain Sidgwick's otherwise perplexing and continued avoidance of any serious engagement with questions about the origins of the moral faculty in the seven editions of *The Methods* that appeared between 1874 and 1907. For suppose that Sidgwick has correctly identified a source of morality in a set of necessary and *a priori* knowable principles of practical reason. It is natural to think that he has thereby answered the contingency challenge. True, if humans had evolved like bees we might not have disapproved of fratricide. The very most that this would show, however, is that the contingent evolutionary process in question would

¹³ The analogy with geometry present also in *The Methods*, where Sidgwick writes: 'I undoubtedly seem to perceive, as clearly and certainly as I see any axiom in Arithmetic or Geometry, that it is 'right' and 'reasonable' for me to treat others as I think that I myself ought to be treated in similar situations' (Sidgwick 1907, 507; 383). There is at least one sense in which treating geometry and arithmetic as on a par in this respect could be seriously misleading. I return to this question below.

have prevented us from developing a grasp either of certain basic necessary and *a priori* knowable principles or of the contingent empirical truths that would allow us to apply these principles correctly. In the same way it could be true that had we evolved more like bees we would not have grasped a number of the necessary and *a priori* knowable truths of mathematics. Yet the idea that this obvious possibility should somehow undermine the epistemic credibility of our arithmetical or geometrical beliefs, given that we actually do grasp these truths, is evidently absurd. No wonder, then, that Sidgwick feels able to say that ‘the theory of Evolution... has little or no bearing upon ethics’ (Sidgwick 2000, 11).

More recently, Peter Singer has explicitly defended a version of the axiomatic view in response to the contingency challenge as formulated in the vocabulary of late 20th Century sociobiology. According to Singer, it is ‘preferable to proceed as Sidgwick did: search for undeniable fundamental axioms, [and] build up a moral theory from them’ (Singer 1974, 517). In this way, the axiomatic view allows us to distinguish the question of the causal origin of our ethical beliefs from the question of their epistemic credibility in such a way as to make our answer to the latter question independent from our answer to the first. Thus, in his book *The Expanding Circle*, Singer writes:

‘Reason is different. Although our capacity to reason evolved for the same biological reasons as our other characteristics, reason brings with it the possibility... of following objective standards of argument, independently of the effect this has on the increase of our genes in the next generation’ (Singer 1981, 169).

Singer's position can be summarized as follows. Natural sympathy is vulnerable to evolutionary debunking because our sympathetic dispositions are contingent and variable. They embody no necessary or *a priori* knowable insight. So if they were all we had to go on we *would* need to worry about the bees. Reason is different because at least some basic ethical principles can be objectively validated independently of contingent and variable facts about the evolution of our sympathetic dispositions. They embody necessary and *a priori* knowable insight. So we don't need to worry about the bees. We can defend the credibility of our ethical beliefs by appealing to a species of 'rational intuition, something like the three 'ethical axioms'... to which Sidgwick appeals' (Singer 2005, 350-1).

5. *Challenging the Axiomatic View*

Suppose the basic axioms of practical reason were necessary and knowable *a priori*. They would then arguably exhibit the features that Bertrand Russell famously attributes to Universals in his *Problems of Philosophy*. They would be 'unchangeable, rigid, exact, delightful to the mathematician, the logician, the builder of systems, and all who love perfection more than life' (Russell, 1967, 57). Yet there is more than one problem associated with the idea of such axioms in ethics. At least some of these threaten to undermine the Sidgwickian response to the contingency challenge. Here I shall mention three.

The first is a problem of *indeterminacy*. Thus, it might be asked if a grounding of ethical thought in basic axioms of practical reason would yield anything sufficiently determinate to be substantially action guiding in the complex circumstances that characterize actual human life. Sidgwick brings out the problem of indeterminacy himself in *The Methods*, when he specifies that his search is for ethical axioms that are both self-evident and non-tautologous. He points out that if what is gained in the form of self-evidence is lost in the form of determinacy, we shall be left with little more than what he calls ‘sham axioms [which]... it is hard to understand how they could even have presented themselves as important’ (Sidgwick 1907, 374-5). Thus, it is all well and good to claim, as philosophers have done since the time of the Ancients, that ‘the good ought to be pursued and evil avoided’. Yet if no interestingly contentful interpretation can be agreed upon for the ethical terms embodied in this claim, it will be of strictly limited interest to the project of accounting for the epistemic credibility of our substantial ethical beliefs. Sidgwick clearly thinks that his own basic axioms of prudence, impartiality and justice can be interpreted so as to avoid this charge. Yet there is a long way from the rational acceptance of any of these general claims in the abstract to their concrete application in any individual case. Thus, it is arguably only in combination with his particular version of hedonism that Sidgwick’s three basic axioms begin to get a grip on reality. Yet as the aforementioned disagreement between Sidgwick and Darwin on that issue illustrates, the introduction of a perfectly general and distinctively hedonistic ‘criterion’ of morality moves us beyond the domain of self-evident truth to the rough and ready terrain of entrenched and reasonable disagreement. And even with hedonism in place, it is less than obvious what to say about

the bees unless we introduce a further controversial distinction already mentioned; namely that between ‘higher’ and ‘lower’ forms of existence.

Suppose there is a way of overcoming the problem of indeterminacy. There remains a second problem of *practical inconsistency*. As Sidgwick points out in *The Methods*, his three intuitive propositions of real clearness and certainty are practically incompatible in a wide range of plausible scenarios. To take Sidgwick’s own example, in the absence of an afterlife that promises compensation for individual sacrifice, prudential utility will conflict with impartial utility for anyone faced with the option of sacrificing their own good in favour of the general good. This is the ‘dualism of practical reason’, and Sidgwick famously ends *The Methods* in despair at his failure to resolve it, writing that in such a case ‘practical reason, being divided against itself, would cease to be a motive on either side; the conflict would have to be decided by the comparative preponderance of one or other of two groups of non-rational impulses’ (Sidgwick 1907, 508). Sidgwick quite reasonably points out that such a failure to completely rationalize practical reason would not necessarily make it ‘reasonable to abandon morality altogether’ (Sidgwick 1907, 508). It does, however, remove the possibility of appealing to the axiomatic view in order to simply dismiss the contingency challenge out of hand. For at least some of the ‘non-rational impulses’ that Sidgwick has in mind would arguably fall within the domain of the contingently variable sympathies targeted by the contingency challenge as formulated by Darwin, Cobbe and others. And if, as Sidgwick himself believes, his own worry about future compensation for individual sacrifice raises the question of divine intervention, this means that the debate about the sourcing of our moral faculty in a

Higher Being remains open, in spite of Sidgwick's explicit protestations to the contrary. The obvious alternative is to reduce the number of self-evident axioms to one. Sidgwick is not alone in having been skeptical about this possibility.¹⁴

The third problem is one of *contingency*. One might reasonably worry that the axiomatic view remains vulnerable to the contingency challenge given that even our most basic ethical concepts are continuously moulded and reinterpreted in response to contingent difference, historical change and empirical discovery.¹⁵ To see why, it is useful to consider the sense in which the axiomatic view might be thought to present a potential

¹⁴ It might be thought that Sidgwick could resolve the problem of practical inconsistency by appealing to something like the notion of a *prima facie* duty introduced by his intuitionist descendant W. D. Ross (Ross 1930). This response underestimates the extent of Sidgwick's difficulty. True, the fact that not all of your *prima facie* duties are practically compatible in every situation does not entail that they are not therefore your *prima facie* duties. Yet reflection on conflicting *prima facie* duties must still somehow yield some conclusion about an overall duty with at least one of the conflicting duties being cancelled or outweighed as a remainder. It follows that the basic concern driving Sidgwick's dualism survives when it is reinterpreted along Rossian lines.

¹⁵ There is a potentially interesting line of thought to be pursued here about the extent of the analogy between ethics on the one hand, and geometry (as that relates to space) and arithmetic on the other. Sidgwick appears to notice this issue at the start of *The Methods*, but never seems to pick up on it in the course of developing his argument (c.f. Sidgwick 1907, 18-20).

‘third way’ of access to truth and knowledge (see Peacocke 2004). The first way would be that of taking as our guide to truth our own contingent and variable responses to the natural world. This might possibly account for the way we normally think about taste or secondary qualities such as colour. Yet it runs straight into the contingency challenge when applied to the case of ethical claims if these are thought of as in some sense objective, necessary or inescapable. The second way would be that of taking as a guide to truth our causal interaction with a mind independent objective reality. This way might possibly account for how we normally think about our knowledge of tables, stars, or the laws of nature. Yet if applied to the case of ethical beliefs it is vulnerable to the charge, close to the surface in Darwin’s *Descent*, that the best causal explanations of our ethical beliefs leave no room for the hypothesis of our causal interaction with irreducibly moral entities. This leaves the third way of taking as our guide to truth the armchair inspection of our concepts, and the formulation of constitutive (and in that sense necessary) truths that define a given area of our thought *a priori*. This strategy might possibly work for some parts of logic or mathematics insofar as they are thought to describe the contours of all possible worlds, but does it work for any significant part of ethics? The challenge here is to show that our ethical concepts themselves, with all the constitutive claims they would be said to imply by followers of the third way, are not themselves contingently dependent and variable to such an extent that they are either vulnerable to the contingency challenge as a whole, or immune to that challenge only in the case of the aforementioned ‘sham axioms’ rightly rejected by Sidgwick.

In order to respond to this challenge on Sidgwick's behalf we would need to have a clear grasp on the precise sense in which his basic axioms of practical reason are either necessary or knowable *a priori*. Unfortunately, it is hard to get more than a tenuous grasp on this question without serious anachronism. During the course of a brief discussion of Sidgwick's response to Spencer, R. J. Richards describes both Spencer and Sidgwick as holding that 'objective moral intuitions provided guidance for conduct and served as the raw principles which reason might refine into a coherent system' (Richards 1987, 322). Yet whereas for Spencer these intuitions were ultimately products of 'inherited mental structures and derived ultimately from the requirements of experience', for Sidgwick these moral intuitions are said to have 'their roots in the universal and necessary structure of rational action' (Richards 1987, 322). This wording suggests a reading of Sidgwick along Kantian lines, and thereby as holding out for a view of moral intuition as a faculty for the apprehension of synthetic *a priori* truth. On the other hand, Richards points out that for Sidgwick 'the conditions... required to manifest... validity... did not produce that validity' (Richards 1987, 322). This claim is at least compatible with a view of moral intuition along realist lines. According to Schneewind, however, neither reading does adequate justice to Sidgwick's considered view on this matter. On Schneewind's reading, Sidgwick's axioms 'are obtained not by mental inspection of esoteric entities or qualities, but by considering what reason requires of human action under the conditions set by the most basic facts of human life' (Schneewind 1977, 303; Sidgwick 1907, 18-20).). In other words, although the axioms allegedly 'have their source in our pure reason', as opposed to a realm of mind independent normative facts, their self-evident truth does presuppose a minimal number of empirical facts about human nature the grasp of which

presupposes at least some recourse to empirical experience of contingent fact. If so, the sense in which the axioms of practical reason are either necessary or knowable *a priori* is only the qualified sense in which certain moral principles can be *a priori* known to apply necessarily to certain creatures, given the assumptions that they have a specific contingent nature and/or are living in specific contingent circumstances.¹⁶ If Schneewind is right that ‘the central thought of *The Methods of Ethics* is that morality is the embodiment of the demands reason makes on practice under the conditions of human life’ (Schneewind 1977, 303-4), then the credibility of even our most basic ethical beliefs is contingent on, and relative to, an accurate conception of those contingent conditions and a reflective understanding of how these conditions have shaped our ethical concepts. It therefore remains an open question what we should think, not only about imaginary humanoid bees, but also about the prospect of humans like ourselves becoming more or less like them.

¹⁶ These exegetical questions are complicated by the near absence from Sidgwick’s work of the terms ‘*a priori* knowledge’ or ‘necessary truth’. There is evidence that he thinks the truth of self-evident intuitions is in some sense knowable *a priori* (c.f. Sidgwick 1907, 381; 386; Sidgwick 2000, 131). As for necessity, Sidgwick does not appear to make any significant use of the now standard modal vocabulary of necessity or contingency writing instead of ‘absolute practical principles’, ‘absolute rules, applicable to all human beings without exception’ (Sidgwick 1907, 379), and ‘fundamental precepts’ being ‘essentially reasonable’ (Sidgwick 1907, 383; c.f. Sidgwick 1872, 231).

6. *Living with Contingency*

Suppose we are barred from appealing to the axiomatic view in response to the contingency challenge. What, if anything, can be said on behalf of the epistemic credentials of our ethical beliefs? In order to answer this question, it is worth recalling a simple truism about where we inevitably begin the project of questioning the credentials of our ethical beliefs in the first place, namely where we actually are. Where we are is here and now, embodying not only a set of beliefs about the natural and social world, but also a set of ethical beliefs the epistemic credentials of which have been put into question. It is from these actual beliefs that we quite reasonably begin the process of reflection on the epistemological significance of the evolutionary origins of our moral faculty. It follows that we are not obliged (at least not at this stage in the proceedings) to engage with the very different (and potentially impossible) task of logically deriving substantial ethical conclusions from a set of purely descriptive, or non-ethical, premises (c.f. Moore 1903; Ruse 1995). We are also liberated from the very different (and poorly understood) project of constructing a model of metaphysically robust facts in order to test whether or not the worldly grounds of our ethical beliefs can somehow be ‘fitted into’ it (c.f. Blackburn 1998; Putnam 2004).

What we can do is confront our existing body of ethical beliefs with the facts and possibilities embodied in the contingency challenge and assess whether that body of beliefs can be made reflectively coherent in response to those facts and possibilities. This is a process of updating our ethical beliefs in response to new evidence that takes ethical

premises as part of its input and then attempts to improve on the epistemic credentials of those beliefs by testing for consistency and coherence, not only between particular ethical beliefs and general ethical principles (what is sometimes referred to as ‘narrow reflective equilibrium’) but also with ethically relevant non-ethical beliefs, including beliefs about the causes (proximate or distant) of those ethical beliefs (what is sometimes referred to as ‘wide reflective equilibrium’).¹⁷ This is not a process that is likely to leave all our existing ethical beliefs intact. Yet neither is it a process that is certain to undermine the epistemic credentials of our entire body of ethical beliefs. Indeed, the process in question could reasonably be thought to lend some support to a non-trivial number of general ethical principles, even if not in the form of basic ethical axioms along Sidgwick’s lines. There are several reasons to think this would be so. Here I shall mention four. First, skeptical appeals to the contingency challenge often claim that our ethical beliefs are affected by ethically irrelevant factors of which we are imperfectly aware (c.f. Singer 2005). Yet such appeals normally embody substantial assumptions about what factors do count as ethically relevant, factors that the reader is (at least implicitly) assumed to share. Second, by abstracting away from what is believed to be merely accidental features of a situation,

¹⁷ It is true that the notion of ‘wide reflective equilibrium’ has been frequently used in the philosophical literature so as not to require the kind of empirical input made epistemologically relevant by the contingency challenge (c.f. Singer 2005). This is the fault of the philosophical literature in question, not of the notion of ‘wide reflective equilibrium’ as such (c.f. Daniels 1979). An opposite defect might be thought to have affected certain manifestations of 19th and 20th Century European philosophy, including some of the work growing out of the so-called ‘Frankfurt School’ (c.f. Geuss 1989).

general principles can be made less vulnerable to certain kinds of biases, incentives and framing effects that may cloud our judgement about particular cases. Thus, abstract talk about impersonal good sometimes abstracts away from actual differences in individual conceptions of what counts as personal good, and general talk about justice sometimes abstracts away from actual differences in particular conceptions thereof (c.f. Rawls 1970).¹⁸ Third, by abstracting away from what is believed to be merely accidental differences between different believers, general principles can be put under pressure to see if they meet with acceptance across either most, or the whole, range of circumstances that characterize ‘the conditions of human life’. Thus, a relatively abstract norm to prevent gratuitous suffering might be shown to be acceptable across a significant stretch of history or across different cultures, even if differently manifested in practice in different circumstances (see e.g. Wong 2006). Fourth, our existing moral sensibility, whether embodied in the form of ethical principles or particular judgements, has been (and continues to be) subject to continuous reflective updating in response to new information about the natural and social world, including information about the nature and origins of the moral faculty itself (c.f. Lillehammer 2003). No doubt it is reasonable to think that an improved understanding of the natural origins of our ethical beliefs would continue to put into question some deeply treasured yet grossly prejudiced aspects of different systems of human morality (c.f. Singer 2005). Yet it is hard to seriously foresee this process as resulting in an unlimited license to torture one’s neighbours for fun. If so,

¹⁸ This is not to imply the (wildly implausible) claim that the very project of abstraction thereby entails immunity from any such, or any other related, disturbance (c.f. Geuss 2010).

we may have just about enough epistemological resources to think that some of those among our ethical beliefs that achieve a substantial degree of coherence and reflective stability across space and time in light of causally informed reflection present us with ethical claims that are, in some relevant sense, objective, inescapable and necessary, at least *for beings like us*. Although this conclusion does not remove the grounds of every skeptical challenge that could consistently be made to the epistemic credentials of our ethical beliefs, it does defuse one kind of skepticism that has had wide currency in the recent philosophical literature on ethics and evolution. This is the kind of skepticism that dismisses the epistemic credentials of our ethical beliefs by first giving a debunking explanation of their evolutionary origins according to which our ethical sensibility is epistemologically ‘contaminated’ by the biological functions our ethical beliefs perform in the process of natural selection, and then denying that the reflective resources embodied in the method of reflective equilibrium are rationally robust enough to absorb and overcome this ‘contamination’ (see e.g. Singer 2005; Street 2006). If the claims I have made in this section are correct, then neither part of this skeptical challenge should be accepted without further argument. With respect to the first claim, we may simply not accept that our entire body of ethically beliefs is detrimentally contaminated in the relevant sense. With respect to the second claim, its negative evaluation of our potential for reflective responsiveness to facts about our ethical sensibility arguably underestimates the significance of insisting that the reflective equilibrium towards which we aim is genuinely ‘wide’.

In the end, of course, the epistemic credentials of individual ethical beliefs can only be measured by testing them against facts and possibilities in the world as we know it. In closing, let us therefore briefly return to Darwin and the bees. Suppose first that Sidgwick were right, against Darwin, that the ‘superior bee... would aspire to a milder solution of the population question’ (quoted in Darwin 2004, 122). This would presumably be because it would see alternative ways of sustaining a flourishing bee-like existence without homicidal sacrifice. Given *our* ethical beliefs, it would not be unreasonable to consider this an ethical improvement, even relativized to the bees’ circumstances.

Suppose, on the other hand, that the bees would be more like Darwin’s savages, endorsing not only homicidal sacrifice, but also ‘female infanticide, polyandry and promiscuous intercourse’ (Darwin 2004, 122). We might ask ourselves if this is because the alternative would constitute a serious threat to their continued existence or social stability (as it might do in the case of actual non-humanoid bees), or whether a change to more ‘human’ practices would merely involve the replacement of one socially stable equilibrium for another. If the latter were the case, we might think that it would be reasonable for us to question their beliefs, given the amount of gratuitous suffering involved. If the former were the case, we might have to stop and ask to what extent, if any, our inherited ethical sensibility is such as to give us a coherent handle on matters of existence or extinction of different intelligent life-forms variously related to ourselves. If we find on reflection that it doesn’t, we might prefer to withdraw our judgement until such time (if any) that we are forced to engage the creatures in question in what Bernard Williams has called a ‘real’ (as opposed to a merely ‘notional’) confrontation (Williams

1985). Given both the epistemologically and metaphysically modest terms in which I have described the project of causally informed ethical reflection above, this conclusion does not in any way undermine the basic response to the contingency challenge contained in this paper.

In either case, the questions at hand in this imaginary scenario are perfectly recognizable to our existing sensibility as raising substantial ethical questions that we can both understand and at least begin to think intelligently about. In part, they relate to the difficult task of articulating which among the many features of a creature's circumstances we think on reflection are ethically relevant, and if so, how. In part, they relate to how we should understand the values of pluralism and tolerance. Either way, it does not follow that when confronted with such imaginary scenarios we should lose confidence in the epistemic credentials of our ethical beliefs as applied to our own (actual) circumstances. After all, there is a plethora of ethically relevant differences between (actual) human beings and (for all we know, purely imaginary) humanoid bees. At the same time, reflection on these differences carries with it the potential for revising some of our ethical beliefs. Thus, reflection on different actual and possible humanoid life forms has the obvious potential to challenge some of our ethical assumptions about actual human practices in contemporary circumstances different from our own, from complicity with organized crime in corrupt jurisdictions to the sale of family members to clandestine immigration rings in the context of interminable poverty and starvation. Yet any changes in our ethical beliefs produced by such attempts at contextually and historically informed reflection would, if coherently conducted, amount to a reasonable and incremental

adjustment of our ethical beliefs, as opposed to a wholesale debunking of an inevitably imperfect ethical sensibility.

The idea that the contingency challenge has the potential on its own to severely undermine the epistemic credentials of our ethical beliefs is therefore without merit. Even if we have no ethical knowledge and there are no objective and determinate right answers in ethics, this is not a conclusion that should be derived from Darwin's theory of natural selection. The still widespread suspicion that things are otherwise quite possibly derives from an aspect of the intellectual context of *The Descent's* conception that has been repeatedly visible at the margins of this paper. This is the idea, at the forefront of Darwin's confrontation with Cobbe and Mackintosh, that we can see our ethical beliefs as deriving from either one of two alternative sources: the first being the mind of a morally perfect being who has created us in His own image, and the second being a mindless and mechanical generator of rationally arbitrary and provincial prejudice. As both Darwin and Sidgwick realized in their own way, this is a false dilemma trading on a bad metaphor.¹⁹

¹⁹ Parts of this material have been previously presented at a conference on evolution and epigenesis at the University of Bergamo in 2008, at the Heythrop College London Philosophy Society (also in 2008), and at a Philosophy Department colloquium at Stockholm University in 2009. I am grateful to members of the audience on these occasions for their questions and comments, and also to the Editor and an anonymous referee for *Biology and Philosophy* for their useful suggestions in completing the paper for publication.

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