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Cognitive Science, Moral Reasoning, and the Theological Suspicion of Ethics

Neil Messer

This essay explores some theological implications of cognitive-science research into moral reasoning. Evolutionary theorizing argues that human morality originated as an adaptation that enabled our evolutionary ancestors to function as members of a social species. Neuroscientific experiments suggest that utilitarian responses to the moral dilemmas known as “trolley problems” involve more activity in brain areas associated with reason and less in areas associated with emotion than do nonutilitarian responses. According to Peter Singer and Joshua Greene, these two areas of research, taken together, support utilitarianism. They might therefore also seem to challenge nonutilitarian theological ethics. However, drawing on Karl Barth and Dietrich Bonhoeffer, it is argued instead that cognitive-science research on moral reasoning could offer a valuable hermeneutic of suspicion concerning ethics as a (merely) human project. Christians can welcome this critical function as an aid in the theological reconstruction of ethics without thereby being committed to the inferences drawn by Singer and Greene.

RECENT DECADES HAVE SEEN A BURGEONING OF THE COGNITIVE sciences: interdisciplinary scientific studies of human psychology, behavior, and culture, some of which appear to raise challenging questions for our self-understanding as human creatures. One such area is the cognitive scientific study of ethics and morality, which covers a range of questions from the very practical to the highly theoretical.¹ This essay focuses on a topic toward the theoretical end of the range (though, as we shall see, not without practical implications): the evolutionary and neuroscientific study of moral judgment. Before that topic is introduced, a brief account of the relevant scientific approaches might be helpful.

Evolutionary psychology treats human cognition and behavior as the products of interactions between our present environment and a psychology shaped

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by the particular evolutionary history of our species. The term “Evolutionary Psychology” is often used to denote a specific methodological approach to that enterprise and sometimes capitalized to distinguish this specific methodological paradigm from “evolutionary psychology” in the broader sense.² Evolutionary Psychology in this narrower sense makes various characteristic assumptions.³ First, it assumes a *computational* theory of mind: the mind is understood as an information processing device that generates behavioral responses to inputs from the environment. Second, the mind is thought to be *modular*. It is not a single, general-purpose, problem-solving device but a conglomeration of a great many algorithms or devices (referred to as “mental modules”) “designed” to solve specific problems: detecting when someone is cheating on an agreement, identifying nutritious and nontoxic food, selecting a suitable mate, and so on. Human minds are as powerful and flexible as they are because they are made up of large numbers of these modules, capable of acting in many different combinations. Third, these mental modules are held to be *adaptations* to evolutionary selection pressures operating in the evolutionary history of our species. This does not necessarily mean the behaviors they promote are adaptive now; in some cases they are not. For example, a liking for sweet and fatty foods might have been highly adaptive when energy-rich foods were scarce but might be distinctly nonadaptive in a modern urban environment with fast-food outlets everywhere. Evolutionary Psychologists typically postulate an “Environment of Evolutionary Adaptedness” in the Pleistocene (ca. 1.8 million–10,000 years ago), during which our ancestors lived as members of small hunter-gatherer bands. Fourth, like physical organs, mental modules originating as evolutionary adaptations in the Environment of Evolutionary Adaptedness are presumed to be universal in our species, across all cultures and societies.

All these assumptions have been challenged by other evolutionary theorists, social scientists, and philosophers of biology, but this need not vitiate the project of “evolutionary psychology” in the broader sense of explaining aspects of cognition and behavior as products of human evolution. For example, evolutionary theories of the origins of morality need not depend on the specific assumptions of Evolutionary Psychologists in the narrower sense (though the latter can and do add their own specific contributions). What all this suggests for the purposes of this essay is that evolutionary psychology in the broad sense is a fruitful field of study that may generate insights with which theologians and ethicists would do well to engage. But any particular claim about human behavior or cognition should be treated with a certain caution because it may depend on assumptions or methods that others in the field would contest.

Brain imaging is a relative newcomer to these areas of inquiry because imaging technologies have only recently advanced far enough to enable studies of the neural correlates of complex mental states and activities.⁴ The main techniques used are positron emission tomography (PET), single photon emission

computed tomography (SPECT), and functional magnetic resonance imaging (fMRI). In PET and SPECT, a radioactive tracer is injected into the blood and its distribution in the brain is measured by the scanner. In fMRI, the scanner sets up a strong magnetic field around the subject's brain. This field will be affected by the magnetic properties of the blood circulating around the brain; particularly active areas of the brain will have an increased blood flow, and this will be detectable by the scanner. Typically researchers will compare participants' brain activity while performing the mental activity being studied with their brain activity under "contrast" conditions, where participants might be allowed to think about whatever they wish or be given a mental task that is similar but not identical to the one being studied.

In a survey of neuroscientific studies of religion, Uffe Schjoedt notes various challenges that also apply to the neuroscientific studies of morality discussed below.⁵ First are problems with "ecological validity," as neuroscientists call it: experimental conditions or design may distort participants' mental activity or render it less authentic. For example, the strange experience of being immobilized inside a large, noisy piece of machinery in a hospital research facility may induce anxiety or make it difficult to concentrate on the set task. Second, the raw data from imaging experiments require extensive processing and analysis to generate answers to the researchers' questions, and this analysis depends critically on assumptions about brain structures and functions. Third, the technical challenges often mean that only small cohorts of participants can be studied, and this can limit the statistical significance of the results. Finally, the framing of research questions is no easy matter when one investigates these topics: researchers' conceptual presuppositions or biases may generate distorting or misleading questions.⁶

A pessimistic observer might wonder whether such challenges invalidate the whole enterprise of neuroscientific research on such complex and contested areas of human experience. Schjoedt does not share this pessimism with respect to the neuroscience of religion. Instead he regards these difficulties as reasons to design studies as carefully and rigorously as possible, treat the conclusions with caution, and be skeptical about overblown popular claims. Something similar could be said of the neuroscientific studies of morality, to be discussed below.

The Evolution of Morality

Ever since Darwin published the *Origin of Species*, evolutionary biologists have been interested in explaining the origins of human morality, particularly the existence of altruism. Biologists define altruism as behavior by one individual that improves others' chances of survival and reproduction at the expense of its own. Altruism in this sense is found not only in humans but in many other

species, including eusocial insects like ants, bees, and wasps. For example, in honey bees, the queen is the only female in the colony to reproduce; the others are all sterile workers whose role is to support the queen. By performing this role, they promote the queen's reproductive success at the expense of their own. This was a long-standing evolutionary puzzle: in *Origin*, Darwin acknowledged that it seemed to pose a nearly fatal objection to his theory of natural selection.⁷ The heart of his theory is that those traits that maximize the chances of survival and reproduction are more likely to be passed onto future generations, so behavioral traits that cause individuals to sacrifice their chances in favor of others might be expected to disappear from the population.

However, Darwin also suggested the germ of an answer, developed by twentieth-century theorists into some elegant (if partial) solutions. First came William Hamilton's theory of "kin selection" or "inclusive fitness," according to which a "gene for" altruistic behavior could spread in the population if the beneficiaries were genetic kin of the altruists; in that case, self-sacrificing behavior on the part of some of its hosts could be the "altruism gene's" most effective strategy for getting as many copies of itself as possible into the next generation.⁸ After kin selection came further work by theorists such as Robert Trivers on "reciprocal altruism," essentially a theorization supported by mathematical modeling of the folk wisdom that it helps both of us if you scratch my back and I scratch yours.⁹ These were the two theoretical solutions brilliantly popularized by Richard Dawkins in *The Selfish Gene*.¹⁰

However, human beings display "genuine" (nonreciprocal, nonkin) altruism. Can this be explained in evolutionary terms, and if so, how? As yet, there is no consensus but no shortage of proposals.¹¹ One is that genuine altruism is a nonadaptive by-product of adaptive behaviors like kin selection and reciprocity: we have evolved brains that support the latter because they were adaptive for our evolutionary ancestors, but once that cognitive and moral machinery (so to say) has evolved, it produces altruistic behavior that extends far beyond kinship and reciprocity. Other theorists prefer group-selectionist explanations: genuine altruism may reduce the reproductive success of the *individuals* who perform it but promote the overall reproductive success of a *group* in which it is found.¹²

It is worth noting two features of this discussion. First, it frames the central problem as the existence of altruism. The neuroscientist and philosopher Joshua Greene, for example, asserts that "the essence of morality is altruism, unselfishness, a willingness to pay a personal cost to benefit others."¹³ Not that the evolution of morality is *only* about altruism: there is no shortage of theories about the origins of justice, compassion, and other moral intuitions and emotions.¹⁴ But altruism is placed the heart of the problem. Thus, for Greene, morality is an evolutionary adaptation that enabled our ancestors to deal with the tragedy of the commons or the tension between individual and collective self-interest, the problem of "Me vs. Us."¹⁵

Those who have learned anything from Alasdair MacIntyre over the past thirty years should have become sensitive enough to history to raise some critical questions about this. As MacIntyre has shown, framing the central problem of morality as the problem of egoism versus altruism (“Me vs. Us”) is a rather recent and particular development, a product of seventeenth- and eighteenth-century northern Europe—and one that he maintains has serious weaknesses associated with it.¹⁶ If it is assumed that the tragedy of the commons, or how the members of a social species are to get along in groups, is *the* central problem that the moral sentiments have been “designed” by natural selection to solve, then there is a risk that this will prejudice the inquiry from the outset.

To slip the phrase “the moral sentiments” into the discussion hints at a second noteworthy point. Quite frequently, discussions of evolution and ethics do not offer a careful account of what is meant by morality. It seems to be taken for granted that we all know what we mean by it. And what (it is assumed) we mean is a bundle of emotional predispositions concerned with compassion, justice, and the like. Readers who think they hear echoes of David Hume, Adam Smith, and the moral sense theorists are not much mistaken. “Darwin’s bulldog,” T. H. Huxley, was philosophically indebted to those thinkers, and his own writing on evolution and ethics was concerned at least in part with theorizing the evolution of the “moral sentiments.”¹⁷ More recently the political philosopher Larry Arnhart has located Darwin (and himself) in the same genealogy as Hume and the moral sense theorists.¹⁸ And Joshua Greene, too, shows Hume’s influence in passages like the following: “Reason is the champion of the emotional underdog, enabling what Hume called ‘calm passions’ to win out over ‘violent passions.’ Reasoning frees us from the tyranny of our immediate impulses by allowing us to serve values that are not automatically activated by what’s in front of us. And yet, at the same time, reason cannot produce good decisions without some kind of emotional input, however indirect.”¹⁹ This is not, of course, to suggest that just because Hume or Adam Smith said something, it must be wrong. But theologians wishing to engage with the discussion about the evolutionary origins of morality would do well to remember its very particular intellectual history because that history might give rise to a framing of the questions that Christians should not simply accept as given.

The Neuroscience of Moral Judgment

In the past fifteen years the evolutionary study of morality has been joined by neuroscientific research on moral judgment. Joshua Greene has been at the heart of the latter since the early 2000s, when he and his co-workers conducted a series of studies on the brain activity of people contemplating the moral thought experiments known as “trolley problems.”²⁰ In his initial study,

participants were asked to consider scenarios of two different types. In an example of the first, an approaching railway train is about to collide fatally with five people on the track; would it be right to save their lives by diverting the train onto a siding, knowing that another person on the track in the siding would be killed by it? In an example of the second, there is no siding but there is a large, heavy man (or in some versions a man wearing a heavy backpack) on a bridge crossing the track. Would it be morally right to stop the train by pushing the man off the bridge into its path, sacrificing his life to save the other five? The majority of respondents answer “Yes” to the first of these and “No” to the second. They think there is a moral difference between acting to save five lives, knowing that one’s action will have the unintended consequence that one other person will die, and deliberately, directly killing one person in order to save five. A minority say “Yes” to both—they see no morally relevant difference between the two. They are utilitarians (at least when answering these questions). They hold that the only relevant criterion in making these moral judgments is the outcome: the right action is always the one that results in the least harm and the greatest benefit. They do not think it morally relevant that in one case the benefit is achieved by committing what we would normally call murder.

Greene and his co-workers asked their subjects to consider scenarios like these and measured their brain activity using fMRI. They found that scenarios involving direct, hands-on killing were associated with greater activity in brain areas involved in emotion. Moreover, the response times of the minority who made utilitarian judgments about the direct-killing scenarios were longer than the response times of the majority. Greene and colleagues concluded that their subjects were emotionally predisposed to make nonutilitarian judgments (for example, that there is a moral difference between direct killing and acting in a way that will indirectly result in someone’s death). The utilitarian minority, they argued, were making reasoned judgments *against* that emotional inclination.

Implications for Ethical Theory

Peter Singer has argued that, taken together, these two strands of research—evolutionary and neuroscientific—indirectly support utilitarian ethics in the following way. Utilitarianism notoriously generates conclusions that many people intuitively find repugnant, as in the trolley scenarios. A standard line of critique is that there must be something wrong with the theory if it gives these repugnant results; so the question is whether that intuitive sense of repugnance can supply reliable moral insights. Some approaches, such as John Rawls’s “reflective equilibrium,” would suggest that it can. The reflective equilibrium approach treats moral intuitions as potentially valid sources of moral

insight, which might have to be modified in the light of our ethical theory, but might sometimes instead lead us to modify the theory.²¹ Singer argues that such approaches are undermined by evolutionary and neuroscientific studies. These studies, he holds, show that our moral intuitions are contingent products of our particular evolutionary history. That history may predispose us to react more strongly to situations in which we are acting against someone else at close quarters (as in the second trolley scenario) just because those would have been the only kinds of situations our evolutionary ancestors would have encountered. They did not have the technology to cause actions at a distance, as in the first trolley scenario. But, according to Singer, no moral significance is to be attached to “the fact that I have killed someone in a way that was possible a million years ago, rather than in a way that became possible only two hundred years ago.”²²

One question that could be put to Singer is whether he is correct to describe the first trolley scenario as “*killing* someone in a way that became possible only two hundred years ago,” or whether that description begs the question of whether there is a relevant moral difference between the two scenarios. To describe two different acts resulting in someone’s death as “killing” assumes that it makes no difference to their moral description whether the result was intended or unintended. But that is in effect what Singer sets out to demonstrate: his argument is that Greene’s research supports utilitarianism (which denies that it makes a difference) against nonutilitarian claims that it *does* make a difference.

Greene also finds support for utilitarianism in his results, but in a rather different way.²³ Using the analogy of a digital camera, he identifies two modes in our moral psychology: the quick “point-and-shoot” mode of our moral instincts and the slower “manual” mode of our moral reasoning. Our moral instincts evolved to help us get along in our various “moral tribes”: to address the problem of “Me vs. Us” or the tragedy of the commons that results from putting self-interest before the claims of the group. But the modern world offers “new pastures” on which a different problem arises: the encounter of many different moral tribes, each with different sets of group norms and the moral instincts to reinforce them. This creates a new tragedy, in which the incompatible commonsense moralities of the different tribes become a source of intractable conflict. Moral instincts will not resolve these conflicts because the commonsense morality of each group has a different set of moral instincts to support it, so we must turn to manual-mode moral reasoning. However, moral reasoning often serves to rationalize the answers supplied by our various tribal moral instincts: Greene regards rights-talk and Rawls’s theory of justice as well as the more venerable deontological theory of Immanuel Kant as examples of such rationalizations. Instead, we need a “metamorality,” a mode of moral reasoning that will transcend our tribe-specific instincts.²⁴

According to Greene, the metamorality we need is utilitarianism, which eschews the fruitless search for non-question-begging proofs of our instinctive moral judgments and gives us a method for settling our differences by means of empirically testable proposals about what will make life as good as possible for everyone.

Even more than Singer's, Greene's neuroethical argument for utilitarianism is open to challenge at various points, some of which will be touched on later in the essay. For the present, however, we consider how a Christian theological tradition might begin to engage with this discussion.

Theological Suspicion

Recall that Schjoedt has drawn attention to several challenges for the neuroscientific study of religion: the difficulty of conceptualizing and framing research questions satisfactorily, the problem of ecological validity, and the possible distorting effects of researchers' presuppositions and biases in the interpretation of results, among others. The discussion of Singer and Greene in the previous section has already hinted at corresponding questions about the framing and interpretation of cognitive-science studies of morality, and one might add that concerns about ecological validity also resurface in relation to Greene's "trolleyology."²⁵ Just as there is a considerable difference between the experiences of being instructed to pray while immobilized in an fMRI scanner and praying in the company of one's own church community in its collective worship, so there is a great gulf between performing far-fetched thought experiments in the scanner and the everyday living of an embodied, socially connected moral life.²⁶ This concern about ecological validity might lead some to doubt whether brain imaging studies can ever yield results that have any meaningful connection to the moral life as it is lived. However, what Schjoedt argues in relation to the neuroscience of religion can also be said of morality: the problems and challenges are reasons for caution, suspicion, and rigor, not for rejecting the project *tout court*. If Greene's trolleyology has conceptual and ecological problems, it may yet generate insights and questions that are serviceable, if handled with care; and if his research or its interpretation is flawed, that should prompt him or others to design better experiments, not to give up trying. The working assumption for the remainder of this essay is that, when done with proper rigor and interpreted with due caution, the cognitive scientific study of morality may yield genuine insights and questions. In which case, how should a Christian theological ethic engage with those insights and respond to the questions?

In the Fall narrative early in the book of Genesis, the serpent promises the woman, "You will be like God, knowing good and evil" (Gn 3:5). Commenting on this passage, Barth notoriously remarked, "What the serpent has in mind

is the establishment of ethics.²⁷ In similar vein, one fragment of Bonhoeffer's *Ethics* begins:

The knowledge of good and evil appears to be the goal of all ethical reflection. The first task of Christian ethics is to [overcome] that knowledge. This attack on the presuppositions of all other ethics is so unique that it is questionable whether it even makes sense to speak of a Christian ethics at all. If it is nevertheless done, then this can only mean that Christian ethics claims to articulate the origin of the whole ethical enterprise, and thus to be considered an ethic only as the critique of all ethics.²⁸

Here Bonhoeffer is hinting at a different kind of narrative of the origins of ethics from the scientific origin narratives we have just been considering: a theological narrative of origins, of the sort he has earlier expounded more fully in *Creation and Fall*, his 1932–33 Berlin lectures on Genesis 1–3.²⁹ This is not, of course, some kind of creationist refusal of the scientific narrative: Bonhoeffer makes it clear in *Creation and Fall* and elsewhere that he has no interest in resisting a Darwinian understanding of biological evolution and the descent of the human species from animal ancestors (62, 76). It is more akin to Barth's reading of the Genesis texts as "sagas," or narratives disclosing the divine origins of creation, that lie beyond the reach of our scientific investigations of history.³⁰ The theological narrative of origins is not a rival to scientific narratives but can perfectly well be read alongside the latter.

In *Creation and Fall*, Bonhoeffer argues that God's prohibition against eating from the tree of the knowledge of good and evil (Gn 2:17) is grace. The boundary or limit that God sets makes possible Adam's creaturely freedom and his knowledge of God: "Adam knows neither what good nor what evil is and lives in the strictest sense *beyond good and evil*; that is, Adam lives out of the life that comes from God, before whom a life lived in good, just like a life lived in evil, would mean an unthinkable falling away" (86–87, emphasis original).³¹ The humans' rebellion against God's prohibition at the instigation of the serpent is their refusal of that creaturely limit (and therefore a refusal of their creaturehood as such) in the attempt to become *sicut deus*, "like God." It is a successful attempt. In that respect at least, the serpent is not wrong: "the fall *really* makes the creature—humankind in the *imago dei*—into a creator *sicut deus*," writes Bonhoeffer (116, emphasis original). But this is a radically alienating development. The unity of knowing God as Creator, "as the center and the boundary of human life" (87), is broken apart into the knowledge of good and evil (*tob* and *ra*). The refusal of the creaturely limit leaves no room in the human being's universe for his or her Creator, so when God says to Adam, "where are you?" Adam's response is to run away and hide. As beings separated from God by the division of our knowledge into good and evil, we are also divided within ourselves; and this dividedness from ourselves and flight from our Creator,

remarks Bonhoeffer, “we call conscience” (118). The knowledge of *tob* and *ra*, he argues, also gives rise to shame and obsessive desire, alienating us from one another; and our refusal to live as human creatures alienates us from nature, from the “soil,” and from our work in the world.

This reading of the Fall narrative underpins the profound theological suspicion of ethics-as-human-project, which Bonhoeffer articulates in the *Ethics* when he writes that the first task of Christian ethics is to overcome the knowledge of good and evil. The merely human project of ethics is an aspect of fallen humanity’s effort to live out of our own resources, our own divided and dividing knowledge of good and evil. It is an aspect of the life that we are compelled to live, as Bonhoeffer says, “between curse and promise” (135).

If this is how a Christian theological tradition should understand the human project of ethics, those neuroethicists who claim to unmask aspects of that project might turn out to be friends, not enemies, of a Christian understanding of ethics—perhaps despite themselves. Gregory Peterson remarks that the cognitive science of religion is often taken to be an “inheritor of the Feuerbachian project to reduce religion to something else, whether it be psychology, class struggle, or will-to-power.”³² Such projects have often seemed corrosive of religious belief; yet Barth famously saw Ludwig Feuerbach himself as an ally of theology, unmasking the pretensions of religion-as-merely-human-project and driving theology back to the only ground on which it can properly stand.³³

By the same token, the picture of ethics offered by Greene, Singer, and others is that our intuitive knowledge of good and evil has evolutionary origins as a way of enabling us to live in social relationships—to solve the problem of “Me vs. Us,” as Greene puts it. We might express this theologically, following Bonhoeffer, by describing our moral intuitions as means by which we seek to live in the world out of our own resources (which we are compelled to do but cannot), means by which we try to overcome our alienation from one another. Yet evolutionary theorists often argue that the evolved morality that fosters in-group cohesion also promotes out-group hostility. In Greene’s terms, it helps solve the problem of “Me vs. Us,” but at the expense of creating the problem of “Us vs. Them,” of “moral tribes.” In other words (in Bonhoefferian terms), our efforts to overcome our alienation through our knowledge of good and evil merely replicate that alienation.

In short, Barth and Bonhoeffer are articulating a profound theological suspicion of ethics-as-human-project: the attempt to know about the good on the strength of our own resources of reason and insight. Let us allow that—notwithstanding the questions raised earlier about aspects of their arguments—Greene and Singer are broadly correct: what we take to be reasoned moral judgments are often rationalizations of intuitive prejudices that are contingent products of our evolutionary history. For a Christian ethic informed by Barth

and Bonhoeffer, neuroethicists who show this are playing the valuable ground-clearing role of “masters of suspicion,” unmasking the pretensions of a merely human project of ethics and driving theological ethics back to its proper sources and methods.

Theological Appropriation

As Bonhoeffer makes plain, however, theological suspicion does not mean the wholesale rejection of ethics but its critical appropriation and reconstruction. The “knowledge of good and evil,” as we have seen, he associates with the Fall and the curse that comes in its wake: fallen humanity cannot live out of its own resources yet is compelled to do so. “That,” remarks Bonhoeffer in *Creation and Fall*, “is what death means” (135). And yet the curse itself contains concealed within it God’s compassion and promise: “The final and most terrible of curses that oppresses humankind is death, having to return to dust. Yet now death becomes for human beings, who live because they are preserved in compassion, a promise held out to them by the God of grace. . . . How should Adam know that, in this promise of death, already the end of death, the resurrection of the dead, was being spoken of?” (135–36). The story does not end with the Fall. Even in telling of the Fall, the narrative points ahead to God’s call and invitation to humanity to be reconciled to God in Jesus Christ.

In the fragment of *Ethics* quoted earlier, Bonhoeffer takes up this theme, expounding what is meant by reconciliation against the backdrop of this account of the Fall.³⁴ He finds our fallen condition reflected in various aspects of our moral life and shows in turn how each of these is transformed by God’s reconciling word and work. First, our fallen state is one of “disunion” and “double-mindedness” (cf. Jas 1:8). We are self-conscious of our own doing of good and evil; we make ourselves into judges, “like God,” he says, “but with the difference that each judgment [we] pass falls on [ourselves]” (314). The more morally serious and admirable fallen human beings are, the more “their thoughts day and night are intensely focused on the unfathomable number of possible conflicts in order to think them through in advance, come to a decision, and determine their own choice” (310). God’s reconciling word to us is a liberating call away from this state to the true freedom of simplicity and single-mindedness. “The freedom of Jesus is not the arbitrary choice of one among countless possibilities. Instead, it consists precisely in the complete simplicity of his action, for which there are never several possibilities, conflicts, or alternatives, but always only one. Jesus calls this one option the will of God. He calls it his food to do this will” (313; cf. Jn 4:34).

Likewise, “for those for whom the knowledge of good and evil has been overcome, there is no longer a choice among various possibilities but always

only the one option of being elected to do the one will of God in simplicity” (320). Jesus says, “Do not judge, so that you may not be judged” (Mt 7:1), calling us away from the knowledge of good and evil that makes us “essentially judges” (314). He says, “do not let your left hand know what your right hand is doing,” calling us away from the self-consciousness of our doing of good and evil—so that in the parable of the sheep and the goats (Mt 25:31–46), the righteous who have fed Jesus when he was hungry, clothed him when he was naked, and so forth “will not know their own goodness; Jesus will reveal it to them” (319).

It would be a great mistake, however, to imagine that our “[election] to do the one will of God in simplicity” puts an end to thought and reasoning. For those in whom the knowledge of good and evil has been overcome by Christ, there is the Christian task of discernment signaled by texts such as Paul’s injunction to “be transformed by the renewing of your minds, so that you may discern what is the will of God—what is good and acceptable and perfect” (Rom 12:2). For those who are set free from being “essentially judges,” there is instead “a judging that is a genuine human activity, that is, a ‘judging’ that springs from the accomplished unity with the origin, with Jesus Christ” (316). In Paul’s words, “Those who are spiritual judge [*anakrinei*] all things, and they are themselves judged by no one” (1 Cor 2:15, translation adapted from NRSV). Alongside Jesus’s saying “do not let your left hand know what your right hand is doing,” there is Paul’s admonition, “Examine yourselves to see whether you are living in the faith. Test yourselves. Do you not realize that Jesus Christ is in you?” (2 Cor 13:5). In contrast to the kind of self-examination that “focus[es] on one’s own knowledge of good and evil and its realization in practical life,” says Bonhoeffer, what Paul commends is a Christian self-examination that “daily renews the knowledge that ‘Jesus Christ is in us’” (325). This discernment of God’s will is a concrete task that must result in the actual *doing* of God’s will. It is also a daily task, to be undertaken anew in each new situation in which we find ourselves.

This may seem like the worst kind of voluntarism and situationism, but other fragments of the *Ethics* make it clear that God’s will is not to be understood in an arbitrary or situationist manner. Nor is its discernment a task that bypasses human reason and reflection:

Intellect, cognitive ability, and attentive perception of the context come into lively play here. All of this discerning will be encompassed and pervaded by the commandment. Prior experiences will raise encouraging or cautionary notes. Under no circumstances must one count on or wait for unmediated inspirations, lest all too easily one fall prey to self-deception. . . . Possibilities and consequences will be considered carefully. In short, in order to discern what the will of God may be, the entire array of human abilities will be employed (323–24).

So do the insights of neuroethicists discussed in the present essay have any part to play in the task of discerning God's will so understood? It might appear not, because Bonhoeffer in this discussion draws a sharp distinction between psychological and theological perspectives. His account of freedom and simplicity, he says, would "be completely misunderstood if these things were taken to be psychologically observable facts" (319). Because "psychological observation itself is always already subject to the law of disunion . . . [it will] never be able to discover the simplicity, the freedom, and the doing that Jesus intended" (320). We will not, then, learn from the psychological or cognitive sciences that the ethical task is to do the one will of God in simplicity and freedom, nor will those sciences tell us what that simplicity and freedom look like.

Bonhoeffer's tone appears rather dismissive of the psychological sciences—perhaps more quickly dismissive than he should be, even by his own lights. He does, after all, go on to say that "the entire array of human abilities" should be employed in the task of discernment (324). Similarly, Barth, who is every bit as insistent as Bonhoeffer that scientific knowledge in itself cannot discover the reality of the human creature, nonetheless allows that within its own limits it can offer genuine insights.³⁵ Scientific and philosophical accounts of the "phenomena of the human" are, he remarks, "like an interesting commentary on a text which must first be known and read for itself if the commentary is to be intelligible and useful."³⁶ A commentary can help us understand a text better, provided the commentator has taken the trouble to be faithful to the text. So if we know on theological grounds that the ethical task is to do the one will of God in simplicity and freedom, neuroethical commentary on the human "text" could in principle help us understand better what it means for concrete human lives to fulfill that task. To be sure, putative insights from the cognitive sciences are at best partial, fallible, and provisional, and they may be distorted by methodological weakness, ideological bias, or other kinds of flaw. So they must be *critically* appropriated into a theological ethic, with all due caution and keen awareness of their limitations. Nonetheless, the appropriate response is critical reception rather than outright rejection.

To understand how this might work in practice, we briefly revisit Joshua Greene, who concludes his essay in neuroethics with "six rules for modern herders" (that is, for us who have to coexist not only with members of our own "moral tribe" but with other tribes whose commonsense moralities differ from ours).³⁷ First, in our personal lives, moral instincts are more reliable guides than reasoning, which is susceptible to unconscious self-interested bias, but when faced with controversies in which the instincts of different moral tribes conflict, we must resort to reason. Second, rights language (the principal deontological alternative to utilitarianism that Greene considers) should be used sparingly and recognized for what it is: not a rationally defensible moral

theory but a rhetorical weapon for use when moral reasoning is exhausted or inopportune. Third, in moral controversy, we should focus on the facts, on empirical evidence about what does or does not work. Fourth, we should beware the unconscious tendency to select whichever version of “fairness” suits our own interests. Fifth, to settle moral controversies, we should use the “common currency” of utilitarian reasoning. And finally, we (the implied audience seems to be more or less affluent Westerners) should give to charity because this can make a dramatic difference to the well-being of others and partially overcome our instinctive indifference to strangers.

The theological account developed here might respond to Greene’s six practical suggestions along the following lines. Given its critique of human aspirations to the knowledge of good and evil, this theological perspective will share Greene’s suspicion of rights language and other deontological approaches insofar as these are seen as attempts to provide a universal, rationally defensible basis for moral norms. This is not to say that such moral language should be rejected wholesale; indeed, in another fragment of the *Ethics*, Bonhoeffer develops an account of natural rights, but it is his theological understanding of the natural that enables his rights-talk to be far more than mere rhetorical weaponry.³⁸ This Bonhoefferian perspective will also share Greene’s concerns about biased fairness—our tendency to spin our moral principles to our own advantage—and the tendency for our moral reasoning to be deployed in self-interested and self-deceiving ways.

Indeed, in some respects this theological approach will both intensify and extend the range of Greene’s suspicion. In particular, a theologically motivated suspicion of ethics will extend to Greene’s own moral reasoning and the status of “metamorality” that he claims for utilitarianism. He fails to acknowledge that utilitarianism also depends on a particular set of presuppositions about the human good, emerging from a particular intellectual and cultural context. Therefore, promoting it as a metamorality looks more like a land-grab by one moral tribe than a tribe-neutral way of enabling everyone to coexist on the new pastures.

If Greene’s claims for utilitarianism are rejected, his third rule about focusing on the facts also requires severe qualification. It has an appearance of objectivity, of taking moral controversies out of the realm of unprovable theory into the domain of hard empirical evidence. In reality, though, Greene’s unacknowledged and contestable presuppositions about the human good generate questionable claims about what the relevant facts *are*.³⁹ The Bonhoefferian account developed in this essay will not, of course, dismiss empirical evidence: according to Bonhoeffer, the discernment of God’s will calls for attention to past experience, “attentive perception of the context,” and consideration of the likely consequences of one’s decisions, among other things.⁴⁰ We shall, however, need to be very clear about the limits of what empirical evidence can tell

us. On some questions it might form a significant part of the argument, but on others its role would be more limited. For example, debates about legalizing assisted suicide or euthanasia are far from being settled by empirical evidence of the effects of legislation in Oregon or the Netherlands, even though such evidence is not irrelevant.

Greene's claims for utilitarianism as a metamorality have already been contested; more generally, a theologically motivated suspicion of the human project of ethics should make us skeptical of *any* quest for a metamorality, an overview that would enable us to settle the controversies between contrasting moral visions. A more promising response to moral controversy can be found in something like Nigel Biggar's conversational approach.⁴¹ Conversation does not require an allegedly neutral metamorality or a universal procedure for translating between the languages of different moral tribes, only a commitment by the parties to speak and listen to one another and to make a serious effort to understand each other's perspectives. It need not have grand aims but can be directed toward the modest goal of reaching limited agreement on particular questions.

Last, this theological account will of course endorse Greene's final precept, to give charitably as a way of partially overcoming the inbuilt weakness of our sympathy with distant strangers. It will, however, press Greene's point further, calling for more demanding practices of hospitality to strangers and solidarity with those who are poor and marginalized, wherever in the world those neighbors of ours might be.

Conclusion

Among its many conversation partners, there is every reason for theological ethics to attend carefully and critically to the kind of cognitive scientific study of morality discussed in this essay. It is essential that our attention be critical because the difficulties noted earlier with the conceptual framing, design, and interpretation of studies such as Greene's mean the conclusions he and his colleagues draw are by no means beyond question. But attention that is also careful and receptive could pay dividends because Greene and his colleagues—like Feuerbach and the other “masters of suspicion” before them—may prove friends in disguise to theological ethics. Greene's critical perspective on what he calls our “point-and-shoot” moralities, and on the theoretical rationalizations we construct for them, is a timely reminder to theologians to have a properly *theologically* critical view of the human project of ethics. On this, as on other topics, the cognitive sciences can offer helpful commentary that (if used judiciously) may be of real value to serious theological readers of the “text” of human creaturely being.

Notes

1. For a summary, see the Oxford Centre for Neuroethics website, <http://www.neuroethics.ox.ac.uk/research> (accessed January 4, 2015).
2. This usage was coined by David Buller, *Adapting Minds: Evolutionary Psychology and the Persistent Quest for Human Nature* (Cambridge, MA: MIT Press, 2005).
3. See Stephen M. Downes, “Evolutionary Psychology,” in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta (Summer 2014), online at <http://plato.stanford.edu/archives/sum2014/entries/evolutionary-psychology/>; and Sven Walter, “Evolutionary Psychology,” in James Fieser and Bradley Dowden, eds., *Internet Encyclopedia of Philosophy* (n.d.), online at <http://www.iep.utm.edu/evol-psy/> (both accessed March 12, 2015).
4. For a helpful summary of the technology, see Uffe Schjoedt, “The Religious Brain: A General Introduction to the Experimental Neuroscience of Religion,” *Method and Theory in the Study of Religion* 21 (2009): 310–39.
5. *Ibid.*, 314–15.
6. Schjoedt is particularly suspicious of research funded by the John Templeton Foundation, which he thinks is at risk of distortion by a pro-religious agenda; it can hardly be supposed, though, that those sympathetic to Templeton are the only ones with agendas. *Ibid.*, 315.
7. Charles Darwin, *The Origin of Species* (1859; repr. New York: Gramercy, 1979), 257–62.
8. William D. Hamilton, “The Genetical Evolution of Social Behaviour,” pt. 1 and 2, *Journal of Theoretical Biology* 7 (1964): 1–52. It should be emphasized that a “gene for altruism” is a highly simplified theoretical abstraction for the purposes of mathematical modeling, but the shorthand is serviceable enough provided it is used with a proper awareness of its limits.
9. Robert L. Trivers, “The Evolution of Reciprocal Altruism,” *Quarterly Review of Biology* 46 (1971): 35–56.
10. Richard Dawkins, *The Selfish Gene* (Oxford: Oxford University Press, 1976).
11. See, further, Neil Messer, *Selfish Genes and Christian Ethics: Theological and Ethical Reflections on Evolutionary Biology* (London: SCM, 2007), 67–70, and references therein.
12. From the 1960s until recently, group selection was out of favor among evolutionary theorists on the grounds that differential survival and reproduction between groups is overwhelmingly likely to be masked by differential survival and reproduction *within* each group. However, some theorists have recently argued that in relatively homogeneous groups with strong enforcement of in-group social norms, heritable differences in behavior between different groups could significantly affect the reproductive chances of their members; see Elliot Sober and David Sloan Wilson, *Unto Others: The Evolution and Psychology of Unselfish Behavior* (Cambridge, MA: Harvard University Press, 1998); and Christopher Boehm, “Explaining the Prosocial Side of Moral Communities,” in *Evolution and Ethics: Human Morality in Biological and Religious Perspective*, ed. Philip Clayton and Jeffrey Schloss, 78–100 (Grand Rapids, MI: Eerdmans, 2004).
13. Joshua Greene, *Moral Tribes: Emotion, Reason, and the Gap between Us and Them* (London: Atlantic, 2014), 23.
14. See Frans de Waal, *Good Natured: The Origins of Right and Wrong in Humans and Other Animals* (Cambridge, MA: Harvard University Press, 1996); and Frans de Waal et al., *Primates and Philosophers: How Morality Evolved*, ed. Stephen Macedo and Josiah Ober (Princeton, NJ: Princeton University Press, 2006).

15. Greene, *Moral Tribes*, 20–65.
16. Alasdair MacIntyre, *After Virtue: A Study in Moral Theory*, 2nd ed. (London: Duckworth, 1985), esp. 228–32.
17. T. H. Huxley, *Hume: With Helps to the Study of Berkeley*, vol. 6 of *Collected Essays* (London: Macmillan, 1894), 228–40; and T. H. Huxley, “Evolution and Ethics—Prolegomena,” in *Evolution and Ethics and Other Essays*, vol. 9 of *Collected Essays* (London: Macmillan, 1894), 1–45.
18. Larry Arnhart, “The Darwinian Moral Sense and Biblical Religion,” in *Evolution and Ethics: Human Morality in Biological and Religious Perspective*, ed. Philip Clayton and Jeffrey Schloss, 204–20 (Grand Rapids, MI: Eerdmans, 2004).
19. Greene, *Moral Tribes*, 137.
20. J. Greene, R. B. Sommerville, L. E. Nystrom, J. M. Darley and J. D. Cohen, “An fMRI Investigation of Emotional Engagement in Moral Judgment,” *Science* 293 (2001): 2105–8.
21. See John Rawls, *A Theory of Justice* (Cambridge, MA: Harvard University Press, 1971); and Norman Daniels, “Reflective Equilibrium,” in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta (Winter 2013), online at <http://plato.stanford.edu/archives/win2013/entries/reflective-equilibrium/> (accessed March 12, 2015).
22. Peter Singer, “Ethics and Intuitions,” *Journal of Ethics* 9 (2005): 331–52, at 348.
23. Greene, *Moral Tribes*, esp. part 2, “Morality Fast and Slow” (103–44); and part 3, “Common Currency” (145–208).
24. “Metamorality” is Greene’s term; see *Moral Tribes*, 25.
25. “Trolleyology” is Greene’s term; see *Moral Tribes*, 105–31.
26. I am indebted to Dr. Jacqui Stewart for putting this point to me with particular force.
27. Karl Barth, *Church Dogmatics*, English trans., ed. Geoffrey W. Bromiley and Thomas F. Torrance (Edinburgh: T&T Clark, 1956–75), vol. IV.1, 448.
28. Dietrich Bonhoeffer, *Ethics*, vol. 6 of *Dietrich Bonhoeffer Works*, English trans., ed. Clifford J. Green (Minneapolis: Fortress, 2005), 299–300. In the second sentence of the quotation, I have amended “supersede” in the published translation to read “overcome,” which to my mind gives a better sense of the German “*aufheben*” and is indeed routinely used by the translators in the remainder of the fragment (311ff).
29. Dietrich Bonhoeffer, *Creation and Fall*, vol. 4 of *Dietrich Bonhoeffer Works*, English trans., ed. John W. de Gruchy (Minneapolis: Fortress, 2004). Page references in brackets in the text in the following paragraphs are to this work.
30. Barth, *Church Dogmatics*, vol. III.1, 81–94.
31. The allusion to Nietzsche here is hardly a coincidence: there is an ongoing critical dialogue with him throughout this part of *Creation and Fall*. Bonhoeffer appears to be using Nietzsche somewhat similarly to the way MacIntyre later does in *After Virtue*: as a penetrating critic of the rule-based moralities that he, Bonhoeffer, aims to “overcome.”
32. Gregory R. Peterson, “Are Evolutionary/Cognitive Theories of Religion Relevant for Philosophy of Religion?” *Zygon* 45, no. 3 (2010): 545–57, at 547.
33. See, e.g., Barth, *Church Dogmatics*, vol. II.1, 292–93.
34. Bonhoeffer, *Ethics*, 299–338. Page references in the text in the following paragraphs are to this work.
35. Barth, *Church Dogmatics*, vol. III.2, 71–132.
36. *Ibid.*, 122.

37. Greene, *Moral Tribes*, 350–52.

38. Bonhoeffer, *Ethics*, 171–218.

39. This is evident in his extended example of the abortion debate. See Greene, *Moral Tribes*, 309–27.

40. Bonhoeffer, *Ethics*, 323–24.

41. Nigel Biggar, *Behaving in Public: How to Do Christian Ethics* (Grand Rapids, MI: Eerdmans, 2011), 45–78.