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How Moral Facts Cause Moral Progress

ABSTRACT: *Morally progressive social changes seem to have taken place with the onset of democratic governance, the abolition of slavery, the rise of gender equality, and other developments. This essay attempts to demonstrate that natural and objective moral facts are a plausible cause of some morally progressive social changes. Since this hypothesis is a version of naturalistic moral realism, I call it the Naturalist-Realist Hypothesis (NRH). To support the NRH, I argue that objective moral facts are natural facts pertaining to the impartial promotion of well-being within a population of agents facing a social dilemma. I then describe a mechanism to explain how natural and objective moral facts so construed may cause some morally progressive social changes. I suggest that the NRH is a credible hypothesis because it is compatible with empirical findings from research on the evolution of moral cognition and on the sociology of mass political movements.*

KEYWORDS: moral progress, naturalistic moral realism, moral cognition, evolutionary ethics, evolution of morality

1. Societal Moral Progress

Moral progress can take place and has taken place. At any rate, so much has been argued by numerous authors including Dale Jamieson (2002), Peter Singer ([1981] 2011), Philip Kitcher (2011), Elizabeth Anderson (2014), Michael Shermer (2015), Steven Pinker (2011, 2018), and Allen Buchanan and Russell Powell (2018). These authors discuss *societal moral progress*, which occurs whenever a change in the norms, practices, and institutions of a society is a moral improvement over the state of the society before the change (cf. Jamieson 2002: 20). Paradigm examples of morally progressive social changes include the end of witch executions, the rise of democratic governance, the abolition of slavery, the extension of equal rights to women and homosexuals, the decline of racial discrimination, the pacification of international affairs, and the broadening protection of animal rights. Of course, some of these developments are still underway. Perhaps they have not gone far enough. Nevertheless, compared to earlier arrangements, it is very plausible that these developments amount to moral progress.

I contend that it is a credible hypothesis that some morally progressive social changes are caused by natural and objective moral facts. This hypothesis assumes the truth of naturalistic moral realism, and accordingly I will call it the Naturalist-Realist Hypothesis (NRH). I argue that the NRH should not be rejected on the grounds of one of Gilbert Harman's (1986) objections to

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naturalistic moral realism: namely, that there is no plausible mechanism to explain *how* moral facts could cause scientifically investigable phenomena such as social change. On the contrary, I argue that there is such a mechanism. In addition, I maintain that the NRH is a better explanation of morally progressive social change than a rival hypothesis that does not posit objective moral facts.

2. The NRH vs. Harman's Mechanism Objection

My central argument assumes, from a first-order moral perspective, that some morally progressive social changes have occurred. Given this assumption, I make a case for the NRH. According to the NRH, some instances of morally progressive social change have been caused by natural and objective moral facts. The NRH has its name because it assumes the truth of *naturalistic moral realism* (Sturgeon 1986; Railton 1986; Boyd 1988; Brink 1989; Copp 2007). Naturalistic realism comprises the following claims: (1) there are objective moral facts; (2) objective moral facts *are* objective natural facts in some sense; and (3) objective moral facts have causal powers. The term 'objective moral fact' refers to moral properties that exist objectively. Examples of moral properties include the wrongness of rape, the rightness of helping people in need, the maliciousness of Hitler, the benevolence of Bill Gates, the injustice of slavery, and the fairness of granting individuals equal status before the law. A property is objective if it exists independently of the attitudes—that is, the beliefs, desires, intentions, and emotions—of any particular individual appraiser or group of appraisers (cf. van Roojen 2015: 100). For instance, if the moral property of injustice were an objective property of slavery, then slavery would be unjust regardless of whatever beliefs, desires, intentions, and feelings any particular individual or group has about slavery.

The core assertion of naturalistic moral realism is that objective moral facts *are* objective natural facts in some sense. Natural facts are properties that can be investigated using the standard methods of the natural and social sciences (van Roojen 2015: 210). In the literature on naturalistic moral realism, there are two prominent accounts of the way in which objective moral facts *are* objective natural facts (cf. van Roojen 2015: 219–21). According to one view, objective moral facts are *identical with* objective natural facts (cf. Railton 1986; Boyd 1988; Copp 2007: 137–42). According to a second view, objective moral facts are *constituted by* objective natural facts (cf. Brink 1989: 157–59, 176–77; Sturgeon 1992: 98). Identity is a symmetric relation: if x is identical with y, then y is identical with x. However, constitution is not a symmetric relation: even if x constitutes y, it is not guaranteed that y constitutes x. For instance: a mass of polyurethane may constitute a bowling ball, but a bowling ball does not constitute a mass of polyurethane. The NRH is compatible with both theories of the relation between the moral and the natural.

My argument will take sides in the classic debate about moral explanations that played out between Gilbert Harman (1986) and Nicholas Sturgeon (1986, 1988). I follow Richard Joyce's illuminating interpretation of the dialectic between Harman and Sturgeon (see Joyce 2006: 184–90). A moral explanation is an explanation in which some moral fact is cited as part of the explanation of a phenomenon. The

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NRH is committed to the proposition that there are some correct moral explanations of *natural* phenomena—that is, phenomena that can be investigated scientifically. Again, the NRH states that objective moral facts cause some social changes that are morally progressive. Social changes are natural phenomena as they can be studied through the standard methods of the natural and social sciences. However, Harman doubts that moral facts could explain natural phenomena. He argues that there is no evidence that moral facts explain any natural phenomena and indeed no evidence for the existence of moral facts at all, *unless* there is a way of 'reducing' moral facts to natural facts (Harman 1986: 66). As Joyce interprets him, Harman accepts that moral facts would be 'reducible' to natural facts, if moral facts were constituted by natural facts (Joyce 2006: 187). On the other hand, Sturgeon is a naturalistic moral realist who suggests that moral facts do explain some natural phenomena. Moral facts can explain natural phenomena, Sturgeon maintains, because moral facts themselves are constituted by (and thus reducible to) natural facts. For instance, Sturgeon notes that the evil of chattel slavery, a putative moral fact, consists in at least two natural facts or properties: it 'is a source of immense and avoidable misery' for slaves, and it prevents slaves 'from realizing capacities for self-development and self-respect' (Sturgeon 1992: 97–98). Furthermore, Sturgeon argues that these natural properties of slavery help to explain the growth of antislavery sentiment in the United States prior to the American Civil War (Sturgeon 1988: 232, 245; 1992: 98).

My argument takes Sturgeon's side in the moral explanations debate. I will throw in my lot with Sturgeon by trying to defuse one of Harman's most powerful criticisms of Sturgeon's views. Harman lodges what I shall call a *mechanism objection*. This objection challenges any version of naturalistic moral realism that attributes causal or explanatory powers to objective moral facts. Harman points out that Sturgeon's moral explanations lack an account of '*how* the rightness or wrongness of an action can manifest itself in the world in a way that can affect the sense organs of people' (Harman 1986: 66, emphasis added). And even if such an account were proposed, Harman insists that 'we have to be able to believe this account. We cannot just make something up' (Harman 1986: 63). We cannot, for instance, simply posit that the objective wrongness of an action affects the way light is reflected into a person's eyes, which in turn causes the action to be judged as wrong (1986: 63). This account is not remotely plausible without a detailed description of *how* wrongness interacts with light, plus evidence to support it. In short, Harman's mechanism objection rests on the premise that for any moral explanation of natural phenomena to be acceptable, there must be a plausible account of *how* moral facts explain the natural phenomena. And clearly, Harman does not think Sturgeon has offered such an account on behalf of naturalistic moral realism.

In response to Harman's mechanism objection, I will describe a mechanism that plausibly explains how moral facts, understood as natural and objective facts, could cause societal moral progress. While I cannot offer a conclusive case for the NRH, what I believe I can do is show that it is theoretically and empirically defensible. The following account is more comprehensive than existing explanations of the mechanisms by which natural and objective moral facts can cause morally

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progressive social change. Peter Railton's 'Moral Realism' (1986) is the definitive forerunner to the picture presented here. According to Railton, the objective moral property of injustice—which Railton equates to social arrangements that fail to serve the interests of all affected individuals impartially—can play a role in causing societies to become less repressive and more egalitarian. This process unfolds due to popular unrest: that is, under certain conditions, unjust arrangements can produce widespread discontent, which in turn generates social movements aimed at eliminating the injustice. Though the account developed below also attributes a primary causal role to unrest, it goes beyond Railton's theory in several ways: it provides more detailed information about the socioeconomic conditions under which unrest fuels morally progressive social change; it discusses more explicitly the relationship between these socioeconomic conditions and naturalistically construed objective moral facts; and it furnishes more extensive empirical evidence for the mechanism it proposes to explain *how* objective moral facts affect people's attitudes and motivations. Thus, this model of how moral facts cause moral progress builds on the foundation laid by Railton.

3. Moral Facts: Natural and Objective

My response to Harman's mechanism objection will proceed in two steps. The first step is to present a theory that characterizes moral facts as being either identical with or constituted by objective natural facts. In other words, the first step is to present a version of naturalistic moral realism. The second step is to explain how moral facts construed under this theory would cause some morally progressive social change. The first step is the task of this section, and the second step will be carried out in sections 4 and 5.

Again, my primary goal is to answer Harman's mechanism objection against naturalistic moral realism. This requires that I explain how natural and objective moral facts, as those facts are construed under naturalistic moral realism, can bring about some morally progressive social change. To explain this, I have to assume the truth of some of the claims made by naturalistic moral realism regarding the characteristics of natural and objective moral facts. A comprehensive case for naturalistic moral realism is, however, beyond the scope of this essay. While I cannot conclusively argue for naturalistic moral realism here, I will offer a condensed case for a version of naturalistic moral realism that draws on more extended defenses offered by others. Although not decisive on its own, this condensed case at least serves to show that naturalistic moral realism is a defensible view.

Naturalistic moral realists hold that objective moral facts are either identical with or constituted by natural facts. They substantiate this thesis on the basis of a theory of the semantics of moral terms and concepts. According to the naturalist realists, objective moral facts are identical with or constituted by those objective natural facts to which moral terms and concepts refer. A challenge for naturalist realists is to explain how moral terms and concepts come to refer to objective natural facts. An especially influential theory of this process is the causal regulation theory of moral reference advanced by Richard Boyd (1988). In Boyd's theory, there are

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certain objective natural facts that cause agents to apply moral terms and concepts to those natural facts. Consequently, the moral terms and concepts refer to the natural facts. Boyd puts the idea as follows:

> A term *t* refers to a kind (property, relation, etc.) *k* just in case there exist causal mechanisms whose tendency is to bring it about, over time, that what is predicated of the term *t* will approximately be true of *k*. . . . When relations of this sort obtain, we may think of the properties of *k* as regulating the use of *t* (via such causal relations). (Boyd 1988: 195)

I will outline an account of how moral terms acquire natural referents in the way Boyd envisions. Specifically, I argue that objective natural facts detected by moral cognition causally regulate the use of moral terms and concepts. What these facts are and how moral cognition came to detect them can be given an evolutionary-functional explanation. According to this explanation, moral cognition has the function of detecting certain objective natural facts. These facts causally regulate the use of moral terms and concepts. Although this account is controversial, it continues to attract proponents such as Harms (2000), Casebeer (2003), Carruthers and James (2008), Rottschaefer (2012), Sterelny and Fraser (2016), and Wisdom (2017).

I will not be addressing the Moral Twin Earth challenge to Boyd's causal approach to moral reference (Horgan and Timmons 1991). No consensus has been reached among metaethicists on whether this objection refutes Boyd's view (cf. Copp 2000; Brink 2001). There is not even a consensus on whether the semantic intuition underlying the Moral Twin Earth argument has any evidentiary force against Boyd's view (cf. Miller 2013: 170; Dowell 2016). Given this dialectical stalemate, I consider it fair game to focus my argument on a different challenge to naturalistic moral realism—namely, Harman's mechanism objection.

Moral cognition is an ensemble of psychological capacities that enables human agents to make moral judgments, follow moral norms, and deliberate about what moral judgments to make and which moral norms to follow (Decety and Wheatley 2015). There has been some debate in the moral psychology literature about whether moral cognition has a distinctive subject matter—that is, a distinctively *moral* domain consisting of *moral* judgments and *moral* norms, as opposed to other kinds of nonmoral judgments and norms. Some researchers suggest that there is no empirical evidence for a distinctive moral domain (cf. Machery and Mallon 2010: 32–34). However, others have critiqued these arguments while citing experimental evidence supportive of a distinct moral domain. For instance, it has been found that adults and children aged two to four regard moral norms as specifically having to do with the prevention of harm, as being applicable independently of whatever social conventions may exist, and as being more serious than social conventions (Kumar 2015; Huebner, Lee, and Hauser 2010; Royzman, Leeman, and Baron 2009). The latter findings are compatible with the theory of the evolutionary function of moral cognition developed below. According to this picture, moral cognition has the function of impartially promoting well-being among agents who interact in the context of a social

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dilemma. If moral cognition has this function, then it would prompt people to follow norms that promote well-being by preventing harm.

The notion of etiological function is the relevant concept operating in the claim that moral cognition has the *function* of detecting objective natural facts. An item has an *etiological function* when it has an effect that contributed causally, through some mechanism of selection, to the historical persistence of either the item itself or the system containing the item. This definition draws on David J. Buller's weak etiological theory of function (cf. Buller 1998). Etiological functions are found in artifacts, in biological traits, in behaviors, and in social institutions. Cars have the etiological function of transportation because transportation is an effect of cars that causally contributed to the manufacturing of more cars. Eyes have the etiological function of sight because sight is an effect of eyes that causally contributed to the inheritance of eyes in generation after generation of organisms. Money has the etiological function of being a medium of exchange because facilitating exchange is an effect of money that causally contributed to its continued production and use in buying and selling things.

Researchers who study human behavior from an evolutionary perspective have attributed functions to various facets of human psychology (e.g., Tooby and Cosmides 2005). I follow some of these researchers in ascribing an etiological function to moral cognition. I contend that a function of moral cognition is to promote impartially the well-being of an indefinitely extended population of agents who interact within the context of a social dilemma. Let us call this the *function thesis*. It should be emphasized straightaway that the function thesis is distinct from both the NRH and naturalistic moral realism. Whereas the NRH and naturalistic moral realism both posit the existence of objective moral facts, the function thesis makes no claim at all about the existence of moral facts. Instead, the function thesis is purely a statement about what caused the trait of moral cognition to be historically selected.

The argument for the function thesis begins from the premise that during the historical evolution of modern human psychology, moral cognition was selected due to its tendency to promote impartially the well-being of interacting agents who confront a social dilemma. It follows that moral cognition has the function of impartially promoting the well-being of such agents. To substantiate this premise, I draw on several theorists who offer Darwinian accounts of the evolution of moral cognition (Kitcher 2011; Krebs 2011; Boehm 2012; Baumard, André, and Sperber 2013). Though there are differences in the details of these accounts, all these accounts are supportive of the function thesis.

First and foremost, all the accounts of the evolution of moral cognition canvassed here begin by identifying similar adaptive problems faced by our hominin ancestors. Adaptive problems are recurring obstacles to survival and reproduction encountered in an environment (Tooby and Cosmides 2005: 21). In the relevant accounts of moral cognition, the focal adaptive problems are social dilemmas (Krebs 2011: 61). Social dilemmas are strategic situations involving two or more agents. In social dilemmas, agents could either choose to cooperate with one another for their mutual benefit, or else they could choose to pursue a privately beneficial outcome that is more advantageous from a selfish point of view. There are a

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number of well-known game-theoretic models of social dilemmas, the most famous of which is the prisoner's dilemma. Other models include public goods games, the tragedy of the commons, stag hunt, hawk-dove, and the battle of the sexes. Cooperation occurs when agents act together to achieve a shared objective. Each individual caught in a social dilemma faces a strong temptation to act selfishly in pursuit of an outcome that would optimize her own well-being, but would be detrimental to others. At the same time, the outcome that best promotes well-being for all parties in the social dilemma is achieved if and only if cooperation is sufficiently widespread. The outcome that 'best promotes well-being for all' is represented as a Pareto-optimal outcome in the simplest models of social dilemmas. Yet there are arguably more compelling ways to understand the idea of what best promotes well-being for all: for example, Kaldor-Hicks efficiency, utilitarian average welfare-maximization, utilitarian total welfare maximization, and so on.

The evolutionary theories of moral cognition I have cited identify various social dilemmas that posed adaptive problems for our hominin ancestors. Philip Kitcher pinpoints the earliest social dilemma as the challenge of forming coalitions among vulnerable individuals who cooperate with each other to acquire scarce resources and share the benefits obtained (Kitcher 2011: 60–63). This problem would have given rise to additional social dilemmas, including the maintenance of peace and solidarity among the members of a coalition (Kitcher 2011: 222). Dennis Krebs cites large divisions of labor and trade with neighboring groups as additional beneficial practices that would have demanded cooperation among groups (Krebs 2011: 180). Baumard, André, and Sperber characterize the adaptive problem solved by moral cognition as that of choosing trustworthy partners who are likely to contribute to, rather than free ride on, mutually beneficial cooperative activities (Baumard, André, and Sperber 2013: 61–65). Finally, Christopher Boehm focuses on the problem of sustaining cooperation in hunts for large game (Boehm 2012: 141–43). Hunting large game required our ancestors to work together in teams of hunters. These hunters and their families had to be kept well-nourished. Therefore, the spoils of the hunt had to be shared somewhat equitably. The maintenance of a food redistribution scheme would have called for social controls against free rides on the contributions of others and monopolization of the quarry by bullies (Boehm 2012: 149–50, 155–58).

The accounts of the evolution of moral cognition surveyed above all suggest that moral cognition was selected because it facilitated cooperation in the context of social dilemmas. To explain how moral cognition exerts this effect, Peter Singer's metaphor of the 'expanding circle' is helpful (Singer 2011). The 'circle' Singer describes is the number of other individuals that one treats with moral concern. In the context of the evolution of moral cognition, let the 'circle' refer more specifically to the number of others with whom an agent is disposed to cooperate. One effect of moral cognition was to promote well-being impartially within the 'circle' of cooperation. To promote well-being impartially is to promote well-being while assigning similar weight or priority to the well-being of different individuals.

Moral cognition promoted well-being impartially among cooperators by motivating a similar responsiveness to the similar needs and interests of all

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partners in cooperation. Boehm, for instance, suggests that moral cognition (his term is 'moral conscience') evolved to suppress selfishness in the form of free riding and dominance behaviors. These selfish behaviors threatened to create resource disparities and infighting that would hinder a group's ability to reap the benefits of cooperative foraging (Boehm 2012: 14, 50 –52, 64–69). To facilitate cooperation, moral cognition motivated partners to practice selflessness and generosity toward one another while maintaining a somewhat egalitarian social order. Likewise, Baumard, André, and Sperber contend that moral cognition is an adaptation that evolved to make individuals more attractive as potential partners in mutually beneficial cooperation. To become a partner, they argue, 'the best strategy is to treat others with impartiality and to share the costs and benefits of cooperation equally' (Baumard, André, and Sperber 2013: 59). One who was not disposed to treat potential cooperation partners impartially would not be chosen as a partner in the first place, and so would miss out on the benefits that cooperation brings. In addition, Kitcher maintains that 'the original function of ethics is to promote social harmony through the remedying of altruism failures' (Kitcher 2011: 225). Kitcher uses the term 'ethics' to designate something like what I am calling 'moral cognition'—namely, the psychological capacity to learn, follow, and deliberate about norms (cf. Kitcher 2011: 74–75, 221). Kitcher argues that the function of ethics is to allow 'a smoother, more peaceful, more cooperative social life . . . through clearing up those altruism failures involving the most urgent endorsable desires on the part of the potential beneficiaries' (Kitcher 2011: 223). Endorsable desires, as Kitcher defines them, are desires that could be satisfied for all cooperation partners in some possible environments (42011: 223). For Kitcher, the function of ethics is to promote well-being impartially among cooperators insofar as it was selected to satisfy more desires of more partners whenever possible.

The comments made thus far may give the impression that moral cognition was selected only because it benefitted fellow-members of insular social groups, such as families, bands, or tribes. One might think, then, that moral cognition only has the parochial function of motivating agents to promote well-being impartially among members of the same group of 'insiders'. But this is not true. The selection pressures that gave rise to moral cognition also favored cooperation among mutual strangers and among individuals who were social 'outsiders' with respect to one another. As anthropologists Chudek, Zhao, and Henrich note, 'based on ethnographic and ethno-historical observations, interactions with strangers and ephemeral interactants are neither uncommon nor fitness irrelevant in human foraging societies' (Chudek, Zhao, and Henrich 2013: 435). These authors stress that the same is likely to have been true among foraging societies of ancestral hominins. Furthermore, Kitcher describes archaeological evidence of peaceful long-distance trade among forager bands. For instance, ancient foraging tools dating back 20,000 years have been found in sites far away (100 kilometers or more) from the places that contained the raw materials they were made of (Kitcher 2011: 117). In addition, Kim Sterelny has argued that an ability to cooperate with outsider groups would have been an effective 'risk reduction strategy, allowing access to resources and support in the face of local catastrophe' (Sterelny 2012:

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187). Sterelny cites ethnographic observations of contemporary forager societies—the !Kung, the Andaman Islanders—that are thought to have practices similar to those of our hominin ancestors who lived at the time moral cognition evolved (according to Sterelny, at least 200,000 years ago). These groups continuously invest in building alliances with neighbors through visits, gifts, intermarriage, and adoption (Sterelny 2012: 187–88). Sterelny adds that many ancestor foragers were 'hypermobile' due to their dependence on pursuing large herbivorous game like mammoth and reindeer through these animals' seasonal migrations. As a result, hypermobile ancestors would not have had fixed territories to defend and would not have had permanent neighbors. Under these conditions, continued access to meat and the avoidance of risky violent conflict would have required a disposition to coexist peacefully with outsider groups. Given the evidence of intergroup cooperation, another way in which moral cognition impartially promoted well-being was to expand the 'circle' of cooperation indefinitely, extending it around potentially any population of interacting agents or groups of agents mired in a social dilemma (Krebs 2011: 179–80).

To be sure, an abundance of research has shown that human beings have parochial and xenophobic biases that may hinder cooperation with outsiders. We do make distinctions between 'in-groups' and 'out-groups', forming positive attitudes about the former but negative attitudes about the latter. These biases manifest in children as young as three years old (Sapolsky 2017: 391). However, as Robert M. Sapolsky has stressed, our in-group/out-group biases can be mitigated through various strategies, such as cueing, priming, reframing, individualizing, perspective-taking, and contact (Sapolsky 2017: 417–22). The fact that the human mind is equipped with mechanisms that can counteract in-group/out-group biases suggests there are no fixed limits in the extent to which we can expand the circle of cooperation.

On the other hand, even if in-group/out-group biases can be mitigated in one way or another, this is consistent with the assertion that moral cognition has the function of promoting well-being exclusively within an in-group. The economists Samuel Bowles and Herbert Gintis (2011) have argued extensively for the hypothesis that the function of moral cognition ('strong reciprocity', in their terms) was to motivate parochial altruism. Parochial altruism is a dual motivational disposition that involves a tendency to be cooperative toward members of one's in-group and proportionally hostile toward outsiders. The more cooperative parochially altruistic agents are toward their in-group, the more hostile they are toward outsiders. However, the evidence pertaining to Bowles and Gintis's account is equivocal. Some studies have not even found that people behave in a parochially altruistic fashion. For instance, in a set of behavioral economics experiments, Corr and colleagues (2015) found no evidence of a positive correlation between individuals' cooperativeness toward insiders and hostility toward outsiders. An extensive literature review by Brewer (1999) came to the same conclusion. Yamagishi and Mifune (2015) report mixed evidence of a correlation between in-group cooperation and out-group aggression, with some disconfirming results where it was found that people who were relatively more cooperative toward insiders were *also* more cooperative toward outsiders. Bowles and Gintis contend

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that because intergroup warfare in the late Pleistocene epoch was especially prevalent, it would have constituted a selection pressure favoring parochial altruism. The late Pleistocene is significant because it is thought to be the period in which moral cognition evolved, along with other psychological traits characteristic of 'behaviorally modern' human beings. Yet other authoritative researchers of human evolution have denied that war was especially commonplace during the late Pleistocene (cf. Fry 2013). Moreover, as Sterelny has pointed out, the archeological evidence of intergroup violence cited by Bowles and Gintis dates only to the more recent Holocene epoch (up to about 12,000 years ago). Sterelny insists that 'the Holocene does not make a good model of the Pleistocene' because in the Holocene 'populations were more sedentary . . . larger, more hierarchically structured, and under greater resource pressure' (Sterelny 2012: 286; cf. Bowles and Gintis 2011: 105).

To summarize: moral cognition contributed to our hominin ancestors' survival and reproduction by motivating cooperative behavior that impartially promoted well-being within indefinitely extended populations of agents who faced a social dilemma. Since this was an effect of moral cognition that causally contributed to the historical persistence of ancestors who possessed the trait, moral cognition has the function of impartially promoting well-being within such populations. And so, we arrive at the function thesis.

No defenders of the function thesis are committed to the patently false claim that moral cognition was always perfectly successful at impartially promoting well-being. Rather, the key contention is that moral cognition had the effect of impartially promoting well-being often enough and to a great enough degree so that it gave individual ancestors and/or groups of ancestors who possessed the trait an inclusive fitness advantage over others who lacked it. Furthermore, the function thesis does not assert that the *only* function of moral cognition was to promote well-being impartially among agents caught in a social dilemma. It is possible, indeed likely, that moral cognition acquired additional functions through its long evolutionary history. For instance, Boehm outlines a way in which a process known as social selection might explain 'why we are able to harbor genuinely altruistic feelings toward genetic strangers outside of our bonded communities—and even beyond the boundaries of our nations or our species' (Boehm 2009: 167). When moral cognition initially evolved, thus enabling our ancestors to create systems of norms that rewarded cooperation and punished free riding in social dilemmas, the norms themselves may have fostered novel selection pressures on subsequent generations. Fitness-reducing punishments, such as social ostracism and execution, may have been applied not just to those who committed free riding in social dilemmas, but also to any other selfish, self-aggrandizing, bullying, and aggressive behaviors that were correlated with free riding. Likewise, fitness-enhancing rewards, such as inclusion in a food-sharing network or selection as a mate, may have been lavished upon individuals who exhibited any sort of unselfish and generous behavior correlated with cooperation and not strictly on those who cooperated in social dilemmas. *If* these social-sanctioning pressures were sufficiently indiscriminate, they could have favored genes disposing individuals to behave benevolently toward strangers that they never interacted

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with in any social dilemma and possibly even toward nonhuman animals. Boehm's is just one evolutionary hypothesis suggesting that in addition to the etiological function of impartially promoting welfare among players in a social dilemma, moral cognition might later have acquired another etiological function of motivating benevolent acts beyond the bounds of strategic situations and biological species. Though Boehm's account is intriguing, I will not argue for it, and it will not be assumed in what follows.

Having presented an argument for the function thesis, I now offer an evolutionary (or Darwinian) version of naturalistic moral realism that will furnish us with a theory of natural and objective moral facts. Due to its evolutionary history, moral cognition is responsive to the positive or negative effects that actions, agents, and institutions have on the well-being of a population of interacting agents ensnared in a social dilemma. These effects and the properties causing them are detected by agents endowed with moral cognition. In turn, agents who have moral cognition respond to those welfare-affecting properties by making moral judgments that prescribe or express a motivational commitment to impartially promoting well-being within the relevant population. Such moral judgments contain moral concepts and terms. In this way, the uses of moral terms and concepts are causally regulated by the properties of actions, agents, and institutions that affect the impartial promotion of well-being. Hence, under Boyd's account of moral reference, moral terms and concepts refer to those properties. And since those properties are the referents of moral terms and concepts, moral facts are either identical with or constituted by properties of actions, agents, and institutions that influence the impartial promotion of well-being.

If moral terms and concepts refer to properties of actions, agents, and institutions that affect well-being, what are those properties? The literature supporting the function thesis does not contain a fully worked-out theory of well-being. Nevertheless, this literature does variously assume that welfare-affecting properties are properties that affect the fulfillment of needs and desires for food, shelter, physical safety, affectionate relationships, social inclusion, and so on. Naturalistic moral realists theorize welfare-affecting properties in much the same way, except that these realists do tend to argue for an explicit theory of well-being/welfare. Above all, they contend that welfare properties are objective natural facts. Boyd, for instance, takes an agent's well-being to consist in 'important human needs'. He broadly describes the important human needs as follows:

> Some of these needs are physical or medical. Others are psychological or social; these (probably) include the need for love and friendship, the need to engage in cooperative efforts, the need to exercise control over one's own life, the need for intellectual and artistic appreciation and expression, the need for physical recreation, etc. (Boyd 1988: 203)

The human needs that Boyd enumerates also appear on lists of 'basic' or 'fundamental' needs proposed by numerous social scientists (Pittman and Zeigler 2007; Tay and Diener 2011). In social psychology, basic human needs are hypothesized to be goals that, when achieved, enhance the health or well-being of

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human individuals who possess them (Pittman and Zeigler 2007: 475–76). The basic human needs may be considered natural properties or facts because they are taken to be scientifically observable. Baumeister and Leary, for instance, suggest that human needs are indicated by declines in health when they are thwarted, by goal-directed behavior aimed at satisfying them, by their effects on emotion, and by their tendency to direct cognitive processing (Baumeister and Leary 1995: 498). Moreover, the basic human needs are objective properties because the indicators of the existence of basic human needs are not mind-dependent—that is, they do not manifest merely because anyone wants, believes, or intends that they manifest.

There is both theoretical and empirical support for the claim that moral cognition evolved by virtue of impartially fulfilling important human needs within populations of agents who came up against social dilemmas. Indeed, Kenrick and colleagues (2010) contend that these human needs are part of an innate motivational system that directs human behavior toward goals that would have enhanced the inclusive fitness of our hominin ancestors (Kenrick et al. 2010: 295). Accordingly, in environments of evolutionary adaptedness, there would have been selection in favor of traits that had a reliable tendency to satisfy human needs. Moral cognition was plausibly one such trait; it likely motivated cooperative behaviors that fulfilled important needs and thereby enhanced the inclusive fitness of cooperating agents. Hunter-gatherer societies on the ethnographic record have been observed to resolve social dilemmas through cooperation. Cooperation among hunter-gatherers has taken the form of team hunting, sharing food, defending against military attacks, building shelter, and trading (Sterelny 2012: 8–12). Our forager ancestors very likely cooperated in much the same ways (Boehm 2012: 79; Sterelny 2012: 88–94). All these forms of cooperation would have served important human needs for sustenance, physical health, and safety, among other things. Moreover, the fulfillment of these needs would have conferred an inclusive fitness advantage upon those ancestors who were motivated to cooperate by their capacities for moral cognition.

At this point, I have arrived at the conclusion that objective moral facts are either identical with or constituted by objective natural facts pertaining to the effects of actions, agents, and institutions on the impartial promotion of well-being within an indefinitely extended population of agents interacting in the context of a social dilemma. This conclusion expresses an evolutionary or Darwinian version of naturalistic moral realism. The NRH does not immediately follow from this conclusion. For even if moral facts are both natural and objective in the way I have suggested, it remains an open question whether such facts can ever play any role in bringing about morally progressive social change. My goal going forward, then, is to show that some morally progressive social changes have been caused by agents' responses to natural and objective moral facts.

4. Moral Facts as Causes of Moral Progress

In this section, I propose a causal mechanism to explain how natural and objective moral facts, as theorized in section 3, cause some morally progressive social changes. The effort addresses Harman's mechanism objection against naturalistic

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moral realism. I will show that the naturalistic moral realist is not forced to 'just make something up' when challenged to explain how natural and objective facts cause naturalistic phenomena like social change. Instead, my hypothesized mechanism by which natural and objective moral facts cause societal moral progress is plausible in light of empirical findings from political sociology.

According to the naturalistic realists, objective moral facts have causal powers by virtue of being either identical with or constituted by natural facts. Suppose moral facts are *identical with* some natural facts (cf. Railton 1986; Boyd 1988; Copp 2007: 137–42). Then by Leibniz's Law, for any natural fact that is identical with a moral fact, a causal power of the natural fact is also a causal power of the identical moral fact. Alternatively, suppose moral facts are *constituted by* some natural facts (cf. Brink 1989: 176–77). If some configuration of natural facts has causal powers and this configuration constitutes a moral fact, then the moral fact has the same causal powers as the configuration of natural facts (Brink 1989: 191–96). Analogously, imagine a ship constituted by a specific configuration of atoms. The ship crashes into port, and much damage is done. The configuration of atoms constituting the ship *causes* the damage. But it would also be true that *the ship* causes the damage. The ship has the same power to cause damage as the configuration of atoms that constitutes it.

The NRH asserts that natural, objective moral facts have the power to cause some instances of societal moral progress. I contend that moral facts exercise this power through a mechanism I describe as a two-link causal chain. In the first link, natural and objective moral facts cause the successful functioning of moral cognition in some moral agents. And consequently, in the second link, the successful functioning of moral cognition in moral agents sometimes causes morally progressive social changes. Hereafter, moral agents will be understood as human agents endowed with moral cognition.

Evidence for this causal chain can be found in the work of political scientists Christian Welzel, Ronald Inglehart, and their collaborators. In particular, Welzel's award-winning book *Freedom Rising* (2014) contains an impressive body of data pertinent to the NRH. Welzel seeks to explain a historical trend he calls *the process of human empowerment*. This process involves social changes that have been hailed as model examples of societal moral progress. It generally consists of a gradual, intermittent increase in the control that ordinary people exercise over their own lives along with the dismantling of institutions that restrict such autonomous control. The English, Dutch, American, and French revolutions of the seventeenth and eighteenth centuries were the first steps in the process of human empowerment (Welzel 2014: 1). Welzel claims that the process of human empowerment is still unfolding as poverty, disease, violence, discrimination, and oppression decline throughout the world (Welzel 2014: 5–6; see also Pinker 2018).

What drives the societal moral progress that plays out in the process of human empowerment? Welzel's answer to this question supplies evidence for the first link of the causal chain proposed above, whereby natural and objective moral facts cause the successful functioning of moral cognition in some moral agents. Moral cognition functions successfully in moral agents when they are motivated to carry out the function(s) of moral cognition. As I have argued in the preceding section,

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a function of moral cognition is to motivate the impartial promotion of well-being among agents who interact with each other in the context of a social dilemma. Welzel finds that the process of human empowerment is driven primarily by the cooperative actions of moral agents who possess welfare-promoting motivations of this nature (Welzel 2014: 58). Welzel calls these motivations emancipative values. Emancipative values are normative beliefs and attitudes that favor giving ordinary people more influence in governance, freedom of choice, and equal opportunities (Welzel 2014: 66–67). According to Welzel, people who hold emancipative values are motivated to cooperate in social movements aimed at institutionalizing civic entitlements—legal rights that guarantee democratic political participation, personal autonomy, and equal status in society (Welzel 2014: 45–47). Welzel observes that the higher the proportion of people who endorse emancipative values within a given society, the more likely it is that civic entitlements will be realized in that society (Welzel 2014: 291–306). This relationship holds in a data set of fifty countries observed over a period of at least ten years.

Moral agents who embrace emancipative values are motivated to promote well-being impartially in their societies. As just noted, emancipative values motivate those who hold them to strive for civic entitlements. Civic entitlements treat the interests of all members of society in an impartial manner; they ensure that no individuals have unearned privilege to greater political power, social status, opportunity, and liberty than others. Furthermore, when civic entitlements are realized, they have the effect of promoting well-being. Welzel and his colleagues stress that expansions of civic entitlements increase social well-being. As a society becomes more democratic and as the people within it develop a greater sense of control over their own lives, average self-reported life satisfaction in that society tends to increase (Inglehart et al. 2008: 280; Inglehart 2018: 166–69; Inglehart and Welzel 2005: 139–41). This relationship was found not just among Western societies with a Protestant majority, but in a data set of 56 countries around the world.

Upon investigating the intentions that prompt people who hold emancipative values to seek civic entitlements, Welzel found that people in societies where emancipative values are highly prevalent are more likely to affirm that caring for the well-being of people nearby is important to them; that caring for the natural environment is important; that they trust people of other religions and nationalities; that ethnic diversity 'enriches life'; that they see themselves as 'world citizens'; and that their country's leaders should assign higher priority to the problem of reducing poverty in the world than to their own country's problems (Welzel 2014: 196, 199, 201, 205, 207, 211–14). These observations indicate that in societies where emancipative values are widely held, people who possess emancipative values are motivated by unselfish intentions to promote the well-being of others. Furthermore, the finding that people who hold emancipative values are more approving of ethnic diversity, more trusting of people of different religions and nationalities, and more supportive of making global reduction of poverty a top priority, supports the hypothesis that these people are committed to promoting well-being on an impartial basis. Thus, there is evidence that people

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who espouse emancipative values intend to promote well-being in their societies impartially. And as mentioned, they often succeed in doing so by institutionalizing civic entitlements.

When moral agents who accept emancipative values act to promote well-being in their societies impartially, their moral-cognitive capacities successfully perform the function of impartially promoting well-being within the context of a social dilemma. A particularly relevant social dilemma is the collective action problem, which has the structure of an *n*-player prisoner's dilemma (Hardin 1982). A collective action problem arises when individual agents could cooperate with others by expending a cost in order to secure a collectively beneficial good, but could also free ride by letting the others take the cost of provisioning the good while benefitting from the good anyway. According to Welzel, when people who endorse emancipative values encounter institutions that are inconsistent with emancipative values, they become motivated to cooperate in changing those institutions so that they are more consistent with emancipative values (cf. Welzel 2014: 47). But the task of reforming institutions poses a collective action problem. For even if an institutional change would benefit everyone in a group, it is costly (in terms of time, energy, and potential backlash) to each member of the group to cooperate in bringing about the change. Welzel calls cooperative actions to reform institutions social movement activities, or SMAs (Welzel 2014: 216). They mostly include nonviolent cooperative actions such as strikes, boycotts, demonstrations, sit-ins, and petitions. Welzel discovered that individuals are more likely to engage in SMAs when they have stronger commitments to emancipative values, and furthermore, individuals who have strong commitments to emancipative values become even more likely to participate in SMAs as the average commitment to emancipative values of *other* people in their society increases in strength (Welzel 2014: 228–33). This result indicates that emancipative values play a significant role in motivating people to overcome collective action problems—which are a kind of social dilemma—by cooperating in SMAs.

I have argued that moral cognition functions successfully in agents whose emancipative values motivate them to participate in cooperative actions (SMAs) that impartially promote well-being in their societies. Interestingly, Welzel's research suggests that this successful functioning is caused by certain properties of institutions—properties that naturalist moral realists would count as natural and objective moral facts. Welzel's analysis reveals that when emancipative values are popular within a society but civic entitlements are low, the society is more likely to experience subsequent expansions of civic entitlements brought on by social movement activities (Welzel 2014: 301–303). Institutions that are low in civic entitlements are inconsistent with emancipative values: they lack competitive democratic elections; they block public accountability; they suppress freedom of expression and association; they forbid women from owning private property; they criminalize homosexuality; and so on. An institution's property of being low in civic entitlements is exactly the kind of property that naturalistic moral realists would construe as a natural and objective moral fact. Institutions that are low in civic entitlements harm certain segments of the population, and they prioritize the well-being of some over others. As we saw in section 3, naturalistic realists take an

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institution's effects on people's well-being to be objective natural facts that are either identical with or constitutive of objective moral facts. If the naturalistic realists are correct about the status of moral facts, then Welzel's account suggests that natural and objective moral facts pertaining to the effects of institutions on well-being can cause the successful functioning of moral cognition in moral agents who hold emancipative values.

Welzel's theory of the process of human empowerment also provides evidence for the second link in the causal chain described above. In the second link, the successful functioning of moral cognition in moral agents causes some morally progressive social changes. As I noted earlier in this section, one of Welzel's central findings is that people who endorse emancipative values are motivated to expand civic entitlements, and are often successful in the attempt. I have also suggested that moral cognition functions successfully in moral agents who are motivated to expand civic entitlements due to their acceptance of emancipative values. The expansion of civic entitlements is widely appreciated as an instance of societal moral progress.

In sum, Welzel's theory of human empowerment supports the NRH. Natural and objective moral facts motivate some moral agents to impartially promote well-being within a population, and this in turn can precipitate morally progressive social change. Welzel's findings show this mechanism to be plausible. I believe the account of societal moral progress presented in this section delivers a powerful response to Harman's mechanism objection against naturalistic moral realism.

5. A Better Explanation of Moral Progress?

I have put forward evidence to show that the NRH is a plausible explanation for some morally progressive social changes. However, I have not yet shown that the NRH is a better explanation of morally progressive social change than alternative explanations. Of course, I cannot demonstrate that the NRH is the best among all rival explanations ever conceived. Instead, I will make the more modest case that the NRH is to be preferred over one salient alternative that has been stressed by critics of naturalistic moral realism.

An alternative to the NRH was articulated by Harman (1986) and Brian Leiter (2001). This competing hypothesis suggests that social changes are caused not by any objective moral facts, but by the attitudes—the beliefs, desires, or intentions—of moral agents. The attitudes of moral agents cannot be objective moral facts because objective moral facts are by definition facts that are independent of any particular person's or group's attitudes. For instance, Leiter rejects the hypothesis that the demise of racial apartheid in South Africa was caused by the objective moral fact that apartheid is unjust. Instead, Leiter insists that it would be simpler, and thus epistemically preferable, to posit that apartheid ended because of the increasingly popular belief that apartheid is unjust (Leiter 2001: 97).

However, despite the simplicity of the Harman-Leiter hypothesis, the NRH predicts and explains observations that the Harman-Leiter hypothesis does not. This gives us reason to prefer the NRH. Naturalistic moral realists have long argued that natural and objective moral facts can causally contribute to social

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change in a way that is independent of the attitudes of agents (Railton 1986: 192–94; Brink 1989: 189). To understand how this can happen, we may again look to Welzel's research. Recall Welzel's finding that the expansion of civic entitlements is driven by the cooperative actions (specifically, the SMAs) of agents who embrace emancipative values. The likes of Harman and Leiter might argue that it is people's acceptance of emancipative values and not any objective fact that does the causal work in motivating people to strive for more civic entitlements. People would not push for more civic entitlements if they did not already accept emancipative values in the light of which civic entitlements are considered worth pursuing. But crucially, Welzel also shows that people tend to adopt emancipative values in the first place because of objective institutional factors. He notes in particular that 'emancipative values emerge in response to people's growing control over action resources' (Welzel 2014: 113). Action resources include wealth, intellectual skills acquired through formal education, and connective opportunities to exchange ideas and find common cause with others (Welzel 2014: 2, 113–20). When people on average have greater control over action resources, they in turn have a greater collective capability to change and control their social environments. And as people's capability to change their social environments strengthens, they increasingly appreciate this capability. Growing appreciation for the capability to foment social change is reflected in the broadening acceptance of emancipative values (cf. Welzel 2014: 7, 50–53). Using per capita GDP, years of schooling, and internet access as measures of control over action resources, Welzel found that such control predicts popular endorsement of emancipative values across dozens of societies from which data was collected by the World Values Surveys (Welzel 2014: 120). Thus, although social movements to expand civic entitlements are driven by popular acceptance of emancipative values, the popular acceptance of emancipative values is itself caused by objective features of institutions—namely, the magnitude and distribution of action resources.

From the vantage of naturalistic moral realism, the magnitude and distribution of action resources are natural and objective moral facts. In section 3, I argued along naturalistic realist lines that objective moral facts are either identical with or constituted by objective natural facts pertaining to actions, agents, and institutions that affect the impartial promotion of well-being in a population. The magnitude and distribution of action resources are, surely, properties of institutions that influence the degree to which well-being is impartially promoted within a society. When action resources are inaccessible to most people or their distribution is highly inequitable, some segments of the population are worse off in the sense that they lack access to wealth, intellectual enrichment, and opportunities to connect with others. Moreover, the magnitude and distribution of action resources within a society are objective and natural properties. They are objective properties because they are independent of people's attitudes: for instance, the amount and distribution of wealth that exist in a society are what they are, regardless of people's attitudes toward them. And the magnitude and distribution of action resources are natural properties because they can be investigated with methods that are standardly used in the social sciences.

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6. Conclusion: The Promise of the NRH

Harman's mechanism objection puts a burden on proponents of the NRH to describe a plausible mechanism through which natural and objective moral facts can cause naturalistic phenomena such as social change. Recent research on the evolution of moral cognition and on the political sociology of human empowerment has furnished grounds to theorize a mechanism of this kind. In the mechanism proposed here, natural and objective moral facts can motivate moral agents to promote well-being impartially by institutionalizing civic entitlements. The institutionalization of civic entitlements is not just a form of social change; from a first-order moral perspective, it is plausibly a form of morally progressive social change. Considering its compatibility with the empirical findings discussed, the NRH merits recognition as a leading account of how moral facts cause moral progress.

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