

Variations in ethical intuitions

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Philosophical theorizing is often, either tacitly or explicitly, guided by intuitions about cases. Theories that accord with our intuitions are generally considered to be *prima facie* better than those that do not. However, recent empirical work has suggested that philosophically significant intuitions are variable and unstable in a number of ways. This variability of intuitions has led naturalistically inclined philosophers to disparage the practice of relying on intuitions for doing philosophy in general (e.g. Stich & Weinberg 2001) and for doing moral philosophy in particular (Appiah 2008; Doris & Stich 2005; Horowitz 1998; Nadelhoffer & Feltz 2008; Sinnott-Armstrong 2008). In this paper, we will draw on naturalistic considerations to offer some solace to philosophers who rely on intuitions. We wouldn't call this a defense of intuitions, exactly, since we are sympathetic with much of the naturalists' critique. But we want to introduce into the debate some neglected naturalistic reasons to be optimistic about intuitions, focusing especially on ethical intuitions.

I. The challenge of variability

The central kinds of intuitions at issue in these metaphilosophical debates are our natural, quick responses to cases, including novel hypothetical cases (see, e.g., Sosa 2007, 233, Weinberg 2007a; Weinberg et al. 2001).¹ For instance, if asked whether it is okay to kill Bill because he likes Neil Diamond, most people would have an immediate judgment that the answer is no. This judgment doesn't depend on any effortful conscious deliberation; just considering the content of the scenario leads us to the answer.

These kinds of immediate judgments are used in some very different ways by philosophers. Philosophers sometimes use intuitions to chart the contours of the folk theory of a domain (see, e.g., Jackson 1998). The point of such an exercise might be entirely neutral on whether the folk theory is *correct*. Intuitions play a quite different role in some philosophical theorizing, however. Philosophers sometimes use intuitions as support for substantive philosophical theses. In a recent paper, Ernest Sosa (2007) maintains that this is characteristic of much philosophy:

Consider some main subjects of prominent debate: utilitarian versus deontological theories in ethics, for example, or Rawls's theory of justice in social and political philosophy, or the externalism/internalism debate in epistemology; and many others could be cited to similar effect. These are not controversies about the conceptual analysis of some concept. They seem moreover to be disputes about something more objective than just a description or analysis of our individual or shared concepts of the relevant phenomena. Yet they have been properly conducted in terms of hypothetical examples and intuitions about these examples. The questions involved are about rightness or justice

¹ Most of the recent discussion focuses on intuitions about concrete cases, and that will be our primary focus as well. But people also have immediate judgments about more abstract questions, like questions about whether it is fair to have vast inequities in wealth distribution.

or epistemic justification. Some such questions concern an ethical or epistemic subject matter, and not just our corresponding concepts. (2007, 232)

As Sosa notes, moral philosophers often invoke intuitions to support substantive theories in normative ethics. We see this in the original literature on the trolley dilemmas. In a standard trolley case, “bystander,” five innocent people are about to be killed by an oncoming train, but a bystander can divert the train so that it will bypass the five innocent people but then kill a different innocent person on a side track. Normative ethicists drew on their natural reactions about such cases as probative for discerning the correct ethical principles (e.g., Foot 1967; Quinn 1989; Thomson 1976). Intuitions also play a prominent role in well-known attacks on utilitarian ethical theory more broadly (e.g., Nozick 1974; Rawls 1971; Williams 1973). In a variety of hypothetical cases, our intuitions rebel against maximizing utilities. For instance, we are asked to consider whether it’s right to frame an innocent man in order to prevent a dangerous riot. Even though framing the man will minimize the amount of harm, many philosophers maintain that our natural reaction is that it’s still wrong to frame the man even if it would maximize utilities. And this reaction is a historically prominent reason for opposing act utilitarianism.

The primary aim of considering hypothetical cases in ethical theory is not to answer the question, Which ethical intuitions are correct? Rather, the aim is to answer the question, Which theory of how to act is correct? Intuitions about cases are used as a resource for answering this question. There are different ways that one might conceive of how intuitions inform substantive theory. Perhaps the most prominent current approach is to think of intuitions as *evidence* for philosophical claims, following an analogy with science. Thus, Sosa maintains that the way to think about the role of intuitions in philosophy is that they function much the same way as observation in empirical science (Sosa 2007, 237-239). Similarly, Ross (1988) offers the analogy that “the moral convictions of thoughtful and well-educated people are the data of ethics just as sense perceptions are the data of a natural science” (1988, 41). To put it in GRE format, intuitions are to philosophy as observations are to empirical science. Drawing a slightly different analogy to science, Boyd (1988) compares ethical intuitions to scientific *intuitions* “as a species of trained judgment” (1988, 207). As such, moral intuitions are not a substitute for observation, but they are “simply one cognitive manifestation of our moral understanding, just as physical intuitions, say, are a cognitive manifestation of physicists’ understanding of their subject matter” (1988, 207-8). Although the science analogy is framed differently by different thinkers, the idea that ethical intuitions play a role much like scientific evidence is embraced by a wide spectrum of moral philosophers.²

Enter experimental philosophy. A series of results has indicated that people’s intuitions about philosophical matters vary between cultures (Haidt et al. 1993; Machery et al. 2004; Nichols et al. 2003; Weinberg et al. 2001) and even *within* a culture (Cokely & Feltz forthcoming; Nichols & Ulatowski 2007). Even the order of presentation can affect the intuitions that get reported (Petrinovich & O’Neill 1996; Swain, Alexander, & Weinberg 2008). In the next section, we will review the evidence of variability in ethical intuitions. But for now we want to point out that the variability in intuitions has been thought to pose a *general* threat to the use of intuitions as evidence for substantive philosophical theories. The worry is that the variability of intuitions challenges the view that intuitions count as *evidence*. Alexander and Weinberg (2007) write,

² However, not all of those who defend the role of intuitions in philosophy draw on the analogy with science. For instance, Bealer (1999) maintains that intuitions function more like data in mathematics because they are ‘data of reason’ and not ‘data of experience’ (3).

[I]f intuitions generated in response to thought-experiments systematically vary on the basis of irrelevant factors, then it is possible to use intuitions generated in response to thought-experiments as evidence for divergent—even contradictory—philosophical claims. But such instability impugns the status of intuitions as evidentiary. (66; see also Weinberg 2007a)

If intuitions support contradictory claims, Alexander and Weinberg maintain that this undermines the idea that intuitions count as evidence. Although they focus on epistemic intuitions, if they are right that the variability of epistemic intuitions impugns their status as evidence, something similar will likely hold if ethical intuitions are variable. Thus, we now turn to examine the empirical evidence of the variability of ethical intuitions.

II. Empirical Evidence of Diversity in Moral Intuitions

Recent empirical results suggest that intuitions vary according to a wide range of factors. Perhaps the best known results concern *cultural* variation (e.g. Weinberg et al. 2001, Machery et al. 2004, Haidt et al. 1993). However, there is also variation in intuitions *within* a culture, and our discussion will focus on these phenomena, so we want to describe them more fully.³

Gender differences

The most extensive discussion of gender differences in morality stems from the “ethics of care” debate (see Gilligan 1982; Kohlberg 1981). Gilligan (1982) argued that traditional theories in both philosophical ethics and experimental moral psychology typically focus on justice and fairness and ignore other important factors, such as care, which emphasize the relationships between ourselves and others and the responsibilities that are involved in these relationships. Gilligan proposed that care is an additional component in the moral psychology of both men and women, though men tend to favor principles of justice and women tend to favor principles of care. This work has been quite controversial (see, e.g., Friedman et al. 1987; Walker 1984), but in any case, there is an important sense in which it doesn’t engage our current interest. For Gilligan’s work focused on explicit reasoning about moral dilemmas, and our interest is in moral *intuitions*. Although few studies in moral intuitions have concentrated specifically on gender differences, some differences have already been found. In studies involving trolley dilemmas, Greene et al. (unpublished) found that men tended to make more utilitarian judgments than women. Petrinovich et al. (1993) found that women tended toward more egalitarian moral judgments such as choosing to draw lots to determine which one of six individuals aboard a sinking lifeboat would get thrown over.

These studies are suggestive, but they are limited by the fact that the questions posed to subjects asked the subject what she *would do* in the face of the dilemma, not what is morally permissible or morally right. And of course judgments of what you would do in a situation can come apart from your moral judgments. In order to test for judgments that were more clearly *moral* judgments, we developed a study that asked participants to respond to statements about whether an action was *morally acceptable* or *the right thing to do*. Participants were undergraduates at the University of Arizona. Each participant was given a questionnaire consisting of a bystander trolley dilemma in which five people can be saved if the train is diverted to the side track where it will kill a different innocent person. In order to test for differences in intuitions regarding care, we varied whether the individual on the side track was a

³ The arguments from variability, if effective, work at least as well when focused on intra-cultural differences.

child, a stranger, or a family member of the participant. Following the description of the bystander dilemma, participants were asked to indicate the extent to which they agreed with the following statements:

1. It is morally acceptable for me to pull the switch.
2. Pulling the switch is the right thing to do.
3. If I was in that situation I would pull the switch.

We found that female participants judged that killing a child to save the five was less morally acceptable than did males.⁴ When subjects were asked whether it was morally acceptable to kill your sister to save the five, females judged the action to be less morally acceptable than did males; symmetrically, when subjects were asked whether it was morally acceptable to kill your brother to save the five, males judged the action to be less morally acceptable than did females.⁵ Thus, our study does indicate that males and females show some differences in their moral judgments. In particular, female moral intuitions seem to privilege children more than males', and there appears to be a bias in favor of one's own gender, at least when it comes to siblings and speeding trains.

Individual differences

Recent studies have also revealed intra-cultural individual differences in moral intuitions that don't depend on gender. Bartels (2008) found that people who endorsed abstract deontological principles were more likely to give deontological responses to concrete hypothetical cases. Apparently, some people are more inclined than others to accept deontological principles, and this difference is reflected in their responses to moral dilemmas.

Framing effects

Differences in intuitions appear not only *between* individuals, but also *within* individuals. Petrinovich and O'Neill (1996) found that people's intuitions differ depending on whether the dilemmas were framed in terms of how many people would be 'saved' or how many people would be 'killed'. Responses also differed depending on the dilemma order that participants

⁴ To see how male and female judgments were affected by the fact that the case involved a child, we used a 2 x 2 (gender x dilemma) between-subjects ANOVA to compare subjects' responses to the statements for the condition in which the individual on the side track was a 12-year-old child versus the condition in which the individual was a stranger. This allowed us to see if the gender differences were just general differences in moral judgments about killing the person on the side track or if the differences were specifically related to the killing of a child. Males judged that killing a stranger to save the five was less morally acceptable ($M = 4.21, SD = 1.93$) than did females ($M = 4.95, SD = 1.07$), and females judged that killing a child to save the five was less morally acceptable ($M = 4.26, SD = 1.79$) than did males ($M = 4.87, SD = 1.71$). This difference between responses of males and females approached statistical significance (the statistical test for an interaction yielded the following: $F(1, 85) = 3.46, p = 0.07$).

⁵ Again using a 2 x 2 (gender x dilemma) between-subjects ANOVA, we compared subjects' responses to the condition in which the individual on the side track was the participant's brother versus the condition in which the individual was the participant's sister. Males judged that killing one's brother was less morally acceptable ($M = 3.41, SD = 1.67$) than did females ($M = 4.33, SD = 1.35$) and females judged that killing one's sister was less morally acceptable ($M = 3.78, SD = 1.58$) than did males ($M = 4.40, SD = 2.13$). The differences between these responses was statistically significant (that is, there was an interaction effect $F(1, 95) = 4.45, p < .05$). We found a similar difference for judgments about whether the action was the right thing to do (the interaction was significant $F(1, 95) = 4.247, p < .05$). Although we found gender differences in judgments of moral acceptability and right action, there was no significant difference between males and females in their judgments of what they *would* do. In addition, there were no significant correlations between the number of brothers or sisters the participants had and the responses they gave to the dilemmas.

received. Petrinovich and O'Neill showed this by varying the order of 3 dilemmas. One dilemma was the familiar bystander trolley case in which participants are asked whether they would pull the switch to save the five. The second dilemma was "scan," in which one could do a scan on a healthy visitor which would kill that individual but provide information to save five dying patients. The third dilemma was, "transplant," in which one could kill a healthy visitor in order to take his organs and give them to five patients who would die without them. In one condition, people received bystander, then scan, then transplant; in the other condition the order was reversed. Petrinovich and O'Neill found that people's judgments of the scan and transplant cases were not significantly influenced by the order in which they appeared. However, order did affect judgments on bystander: people were more likely to say they would pull the switch when bystander was the first dilemma they saw.

Overall, there is diversity in moral intuitions along several different dimensions. It is increasingly hard to deny the naturalists' claim that there is a rich amount of diversity in ethical intuitions. The diversity itself is diverse – ethical intuitions vary by culture, gender, individual, and even order of presentation. In some cases, there seem to be differences in emphasis or priority, such as prioritizing justice over care or one's own gender over the opposite gender. In other cases, we seem to find more basic disagreement, as when people who embrace deontological principles are more likely to reject consequentialist resolutions of dilemmas. Now we need to ask what the implications are for the use of intuitions in ethical theory.

III. Intra-individual variation: order effects

When it comes to intra-individual variation in ethical intuitions, the implications seem pretty pernicious. The order in which trolley cases are presented is morally irrelevant, but it nonetheless affects people's intuitions about cases. This suggests that there may not be a stable set of intuitions about the cases (cf. Swain et al. 2008, 141).

As a matter of fact, the extant research indicates that some of our ethical intuitions are widely shared and not susceptible to order effects. For instance, in study after study, people give the same response to the *transplant* case, in which a surgeon can save five sick people by harvesting organs from one healthy person. Even brain-damaged patients who tend to make utilitarian moral judgments are opposed to this action (Koenigs et al. 2007). Furthermore, while the bystander case is susceptible to order effects, the transplant case is not. Regardless of whether the case was presented first or last, people opposed killing an innocent person to take their organs (Petrinovich & O'Neill 1996). This seems like good news for philosophers who rely on intuitions. However, the fact that there are intuitions that are widely represented and resistant to order effects does not provide a complete remedy for the problem. For people might well be oblivious about which of their intuitions have this privileged status (cf. Swain et al. 2008, 141).

Do we have resources available to us that might guide us in assessing which of our ethical intuitions are stable and representative? This question has never been a focus of research as applied to ethical intuitions, so we conducted a small study using a staple of psychological research, confidence measures.⁶ We adopted the task used by Petrinovich and O'Neill (1996) in their study on order effects, using three dilemmas: bystander, scan, and transplant. As in the original study, half of the subjects received the dilemmas in that order, and the other half

⁶ Our study was inspired by Jen Wright's lovely work on confidence judgments in epistemic intuitions (Wright, forthcoming).

received the reverse order. We made two significant changes to the original study. Petrinovich and O’Neill had subjects indicate what they *would do*, and since we wanted to focus on the ethical question, we had subjects indicate what they thought was the *morally right thing* to do. Secondly, we included a question asking participants to indicate how confident they were about each answer.

As expected, we found a trend indicating that order affected how people responded to the bystander dilemma. Subjects who got the bystander case first tended to agree with the claim that the morally right thing to do is *not* hit the switch, whereas only a small proportion of those who got bystander last agreed with the claim.⁷ And in line with previous studies, virtually everyone said that the right thing to do was *not* do the transplant, regardless of order. The real focus of the study, though, was on whether people would differ in their confidence in their responses. The answer was quite clear: people were significantly less confident in their answer to bystander (*mean* = 3.59 on a scale from 0 to 5) than they were in their answer to transplant (*mean* = 4.47).⁸ Indeed, people were extremely confident in their responses to transplant, coming close to the top of the scale.

It’s important to be clear about what confidence judgments reflect. Standard research on confidence judgments shows that people tend to be more confident about their answers when their answers are, as it happens, correct (see e.g., Gigerenzer et al. 1991). However, much of this research includes a crucial confound – the correct answers were also the widely accepted answers, confounding correctness and consensuality. In recent experiments, Asher Koriat (2008) pulls apart these two factors by including examples of statements about which there is a *mistaken* consensus (e.g., that Sydney is the capital of Australia). Koriat finds that what confidence most clearly indicates is *consensuality*. People’s confidence in their answers correlates with the right answer when the right answer is widely agreed on, but confidence does not correlate with the right answer when the *wrong* answer is widely agreed on (Koriat 2008). This finding is of particular relevance in the debate over intuitions. For the advocate of intuitions can take solace in the fact that confidence provides some information about the *representativeness* of one’s intuitions, but confidence cannot be taken to be a direct indicator (independent of consensus) that one’s intuitions are *correct*.

Although our study does not provide an answer to the question of which intuitions are correct, it does indicate a potential means of response to the aforementioned objection to the use of intuitions in philosophy. We find that one of the clearest cases of an intuition that is widely shared and that is resistant to order effects is also an intuition about which people are very confident. This suggests that people do have access to some information that, as a matter of fact, discriminates between intuitions that are susceptible to framing effects and those that aren’t. It also provides evidence that people have access to information (in the form of confidence judgments) that reflects the representativeness of their intuition. Of course, this is just one case, and it will be important to see to what extent it generalizes. But at the moment, it is perhaps enough to give the intuition advocate a bit of relief.

⁷ This trend wasn’t quite significant ($\chi^2(1, N=17) = 2.837, p = .09$, two-tailed), but this isn’t surprising given how few subjects we had (8 in one condition; 9 in the other). Interestingly, while we found judgments of the bystander case seem to be impacted by order of presentation, our results trend in the opposite direction of Petrinovich and O’Neill. They found that people were more likely to not pull the switch when the bystander case was presented *last*. This asymmetry might reflect the difference in questions asked—“what is the right thing to do?” versus “what would you do?”

⁸ This difference was quite pronounced, $t(16) = 3.665, p = .002$, two-tailed.

IV. Benefits of diversity in science

We will turn to inter-individual diversity in ethical intuitions in section VI. But if we are to take the analogy with science seriously, then we should look to see how diversity impacts science. First of all, it is evident that diversity abounds. Just to draw from prominent disputes in the cognitive science of language, some maintain that phenomena of human speech perception (e.g., distinguishing *ga* from *da*) depend on uniquely human capacities (e.g., Trout 2003), while others maintain that speech perception can be explained by general mechanisms of auditory perception shared by other species (e.g., Holt & Lotto 2008); some maintain that the human capacity for syntactic language is innate (Chomsky 1975), others reject syntactic nativism (Scholz & Pullum 2006); some maintain that the innate capacity for syntax was specifically adapted for linguistic communication (Pinker & Bloom 1990), others maintain that the innate capacity is not specifically linguistic (Hauser et al. 2002). This is only a partial list of major theoretical differences concerning the science of *human language*. Throughout the sciences more generally, there is a sea of theoretical diversity.

A number of factors contribute to the presence of scientific diversity. People come to the scientific table with different background assumptions, and this can influence what projects people pursue, what questions they ask, and what hypotheses they explore (Kitcher 1993; Longino 1990 2002; Okruhlik 1994). Background assumptions and reasoning strategies can also affect observation and analysis by influencing what data people look for, how they interpret evidence, and how they think the evidence supports their hypothesis (Amann & Knorr Cetina 1988; Kitcher 1993; Longino 1990 2002; Okruhlik 1994). Just to take one illustration, Kitcher (1993) writes,

Naturalists who explored variation in wild populations of butterflies and the geneticists studying mutations in *Drosophila* drew quite different conclusions about the operation of selection, not simply because they assented to different ‘evidential reports’—indeed each group endorsed the findings cited by the other—but because their training disposed them to feel the force of certain kinds of considerations and not that of others. (68-69)

Because of their different background assumptions, naturalists and geneticists ended up with different theoretical positions concerning roughly the same phenomena.

In short, we find diversity in scientific theory in abundance, and this is to be expected given the diversity in background goals and assumptions. What are the impacts of this diversity? The prevailing view is that diversity is critical to scientific progress. There are a number of reasons why diversity facilitates scientific progress, but here we will focus on just two reasons philosophers of science celebrate theoretical diversity: (1) some of the minority views are right and (2) diversity enhances error correction.

Some of the minority views are right

The hypotheses and theories that we ultimately choose will be constrained by the available options (Okruhlik 1994). Since some of the minority views end up being correct, it is critical for scientific progress that reasonable competing views are given consideration. Accordingly, we should not reject views “before they can show their strength” (see Feyerabend 1981, 139). Borrowing an idea from Mill, Feyerabend remarks that “the only way of arriving at a useful judgment of what is supposed to be the truth, or the correct procedure, is to become

acquainted with the widest possible range of alternatives” (Feyerabend 1978, 86).⁹ As Mill put it, not allowing various views to be represented “robs the human race,” for if the opinion is right, then expressing it can lead to “exchanging error for truth” (Mill, 1859/1978, 16).

Kitcher (1993) makes the slightly different point that productive diversity is promoted when scientists approach problems in different ways. Accordingly, we need to have people in the scientific community with different “propensities for activating modes of problem solving, representation, and inference” (Kitcher 1993, 71). We also need to have scientists working on different types of projects. Indeed, Kitcher develops an economic model of the scientific community and stresses how important it is that some researchers pursue theoretical options that have relatively low odds of being right. A self-interested scientist might pursue relatively unlikely lines of research since the potential payoff will often be high enough to make it a rational bet. This kind of structure facilitates progress. As Kitcher puts it, “[A] community that is prepared to hedge its bets when the situation is unclear is likely to do better than a community that moves quickly to a state of uniform opinion” (Kitcher 1993, 344). Since minority views sometimes end up being right, allowing minority views to be represented enables the scientific community to arrive at better and better theories.

Enhanced error correction and recognition of background assumptions

People are notoriously bad at recognizing their own errors and background assumptions. As previously noted, background assumptions play an important role in establishing hypotheses, in observation, and in analysis. Thus, when evaluating and comparing theories, it can be essential to know what background assumptions are in play. Having a plurality of views can aid in this process since it is generally easier for those external to a particular theory to identify background assumptions that may be influencing the theory in question. As Longino (1990) notes, the more viewpoints from which criticism can derive, the more successful we will be at uncovering background assumptions. She writes,

[S]ome assumptions are not perceived as such by any members of the community. When, for instance, background assumptions are shared by all members of a community, they acquire an invisibility that renders them unavailable for criticism. They do not become visible until individuals who do not share the community’s assumptions can provide alternative explanations of the phenomena without those assumptions. (Longino 1990, 80)

In addition to helping us detect background assumptions, external evaluation can also help us detect errors. Research on problem solving indicates that, for at least certain types of problems, people working in groups of two do better than the same number of people working alone, and this is largely because an individual working in isolation is more likely to persevere with bad ideas (see, e.g., Doris & Nichols forthcoming). Thus, it’s not surprising that diversity plays an essential role in science in generating external evaluation, which itself has long been acknowledged as critical for scientific progress. There are many avenues of external evaluation in science. Perhaps the most obvious path is through replicating experiments in different labs with different theoretical allegiances. Theorists will often uncover confounds in the experiments and overinterpretation of the results in the work of their dialectical opponents. This then forces

⁹ This does not mean that all of the alternatives have equal merit; some will be better suited for criticizing theories than others (see Feyerabend 1981, 109-110).

the opposing theorist to defend, modify, or abandon her views in response (see Longino 1990).¹⁰

V. Why diversity works

Philosophers of science have emphasized how diversity facilitates progress in the scientific community. They have paid much less attention to why, at the individual level, diversity provides this advantage. A long tradition of research in psychology provides some insight into why diversity would facilitate better reasoning at the level of the individual.

Encountering views that are incongruent with our own can lead to a state of disequilibrium, causing us to feel a sense of dissonance or psychological unease (Festinger 1962; Matz & Wood 2005; Turiel 1977). It turns out that this is often a good thing. Disequilibrium can enhance cognitive functioning by motivating us to critically evaluate our own views and the opposing views (Festinger 1962; Piaget 1985). When faced with incongruent information, individuals will often seek new information or change their views in order to reduce the dissonance they feel (see, e.g., Chang et al. 2004, 545).

An additional factor that stimulates criticism and evaluation is motivated reasoning – what we want to be true influences the amount of cognitive effort we employ, which parts of our brain are activated, and which beliefs and rules we access (see Ditto & Lopez 1992; Kunda 1990; Schaller 1992; Westen et al. 2006). When people’s views are challenged by being presented with information that is inconsistent with their preferred conclusion, they examine the information more critically than they do for information that is consistent with their preferred conclusion (Ditto & Lopez 1992). As Kunda (1999) describes it: “When we come across evidence that supports our desired conclusions, we may accept it at face value but when we come across comparable evidence that challenges our desired conclusions, we may evaluate it more critically and try harder to refute it” (Kunda 1999, 230).¹¹ This effect was demonstrated by Mark Schaller (1992) in a study on how motives affect which statistical inference models people use. Schaller showed men and women data suggesting that women were inferior leaders. The data were in fact flawed, and women were more likely to notice this. The fact that the data had unfavorable implications for women was likely a strong motivator for them to evaluate the data more critically.

Relatedly, experiencing disparate views stimulates useful criticism and evaluation because we access different memories, beliefs, and rules when evaluating opposing views than when evaluating our own views (Ditto & Lopez 1992; Kunda 1990). This can help explain why we tend to be better at recognizing others’ mistakes than our own. People are naturally inclined to search for information that confirms their views but not to search for information that opposes their views (Koriat et al. 1980). But diversity can reduce this confirmation bias. Schulz-Hardt et al. (2000) found that groups with diverse views showed less of a confirmation bias than homogenous groups did. To test whether this was the result of different views being presented or of genuine disagreement, Schulz-Hardt et al. (2002) examined how groups made decisions

¹⁰ Ultimately, many of these points can be traced back to Mill, who argued that external criticism and evaluation are essential for correcting errors in judgment because individuals are incapable of correcting their errors solely by their own experience (Mill, 1859/1978, 19).

¹¹ Of course motivated reasoning is not completely unconstrained. Kunda (1990) notes that changes in beliefs and attitudes are constrained by prior beliefs and attitudes. People’s ability to arrive at desired conclusions is also constrained by their “ability to construct seemingly reasonable justifications for these conclusions” (Kunda 1990, 480).

when there was genuine dissent versus contrived dissent. In the genuine dissent condition, the group members had opposing preferences prior to the group discussion. In the contrived dissent condition, the group members had the same preference prior to the group discussion, but a randomly chosen group member was asked to play “devil’s advocate” and criticize the group’s preferred alternative (Schulz-Hardt et al. 2002, 579). They found that contrived dissent facilitated the search for contrary information somewhat, but the groups with genuine dissent were the most balanced in their search for information. One possible explanation the authors offer is that if people think there is consensus on their view, they are more likely to be overconfident and think that critical examination of their position is unnecessary (cf. Sniezek 1992). Contrived dissent doesn’t cause people to lose as much confidence in their own views because it doesn’t indicate that others *actually* disagree with them. Consequently, it does not present as great of a need to critically evaluate one’s original preferences as genuine dissent does (Schulz-Hardt et al. 2002).

Thus, diversity in views leads people to reason more effectively. If we want to know whether theory A is true or false, given the way that motivation impacts human reasoning, we are best off if there are people who are highly motivated to defend A as well as people who are highly motivated to attack A. At the public level, that arrangement is likely to generate the best reasons on both sides of the theory. That provides an important part of the explanation for why diversity is so important for scientific progress.

VI. Diversity and moral progress, on the scientific analogy

Now we can finally return to ethical theory. As we saw in the first section, many meta-ethicists regard moral intuitions as playing a role for ethics that is analogous to the role of evidence in science. Just as scientific evidence helps us get at the truth about the world, so, too, ethical intuitions help us get at the truth about morality. We maintain that if the science analogy is apt, then the aforementioned benefits of diversity in science likely apply to the moral domain as well. That is, if the science analogy is embraced, then just as diversity facilitates scientific progress, we should expect that diversity facilitates *moral* progress.¹² While we believe that diversity can provide benefits for both realist and irrealist moral theories, we will begin by focusing on realist moral theories since they are a closer analogue to common realist scientific theories.¹³

Just as some minority views in science end up being right (e.g., the view that the earth revolves around the sun), in the ethical domain, there are views that were previously held by a minority but have come to be regarded as the right views and are embraced as such by moral realists. Obvious examples come from the expanding circle of moral concern. For instance, in the nineteenth century in the U.S., there was diversity in the white community about the extent to

¹² Weinberg (2007b) offers an interesting discussion of epistemic norms in which he also appeals to the importance of diversity for scientific progress. We find his discussion quite congenial to ours, although he focuses on the epistemic intuitions of different research communities, and our proposal aspires to apply to the first-order ethical intuitions of the masses as well as the philosophers.

¹³ Of course, diversity forms the basis for a common objection to moral realism. According to the objection, the best explanation for (some) moral diversity is that *there are no moral facts* that we perceive when making moral judgments (see Doris and Plakias, in press; Mackie 1977; Harman 1977). We have some sympathy with this objection to realism, but we set it aside for present purposes. Realists have made a number of responses to the objection (e.g., Boyd 1988; Brink 1989; Shafer-Landau 1994, 2003; Smith 1994), and our aim here is to argue that *if* moral realism is right, then diversity can help us reach the moral truths in a similar sort of way that diversity can help us reach the truths in science.

which blacks deserved moral consideration. The presence of a dedicated white minority promoting equal consideration played an important role in driving progress to better moral views. The moral condemnation of animal cruelty provides another example. In the seventeenth century, indifference to animal cruelty was the norm. Thomas (1983) writes, “In the case of animals, what was normally displayed in the early modern period was the cruelty of indifference. For most persons, the beasts were outside the terms of moral reference” (1983, 148). Eventually, contrary intuitions emerged and swept the moral landscape. In some of these cases, the anti-cruelty norm was promoted by pet owners, who seem to have developed heightened sensitivity to the plight of animals (Thomas 1983, 119-120; see also Serpell & Paul 1994). While we now think it obviously wrong to set a cat on fire, the very idea that animals deserve moral consideration was born of a minority. Without the vocal minority opposing animal cruelty, we would not have arrived at what we now think to be the obviously correct moral view.

As we saw above, one of the important roles of diversity in science is that diversity enhances error correction and helps bring background assumptions to light. While there hasn't been any systematic work on error correction in ethical theory, we know that diversity prompts error correction in other domains (see Hill 1982). More importantly, it's a familiar fact that people are more likely to miss errors in their own arguments, and there's no reason to think that this fails to apply in the domain of ethical theory. In addition, just as Longino notes that background assumptions in science often go unnoticed in the absence of theoretical diversity, so, too, background assumptions guiding moral reasoning will also often be invisible to us. The presence of divergent opinions in morality, as in science, can help bring out these background assumptions. Accordingly, moral realists can expect that if diversity helps us get to the scientific truths, so, too, diversity will help us get to the moral truths.

In the previous section, we saw some of the reasons that diversity inspires better reasoning in individuals. People tend to reason most effectively about the virtues of their own views and the weaknesses in opposing views. Moral reasoning is unlikely to be an exception here. People tend to identify strongly with their moral beliefs (Rozin 1997) and, as a result, encountering moral opinions that conflict with our own can be threatening and bring about a state of disequilibrium. We can expect this to carry advantages for moral reasoning: since we identify so strongly with our moral beliefs, when faced with an opposing view, we will naturally be motivated to bring critical scrutiny to the opposing view. Of course, this works in the other direction too. Those who find themselves at odds with our own moral intuitions will be motivated to show the flaws in *our* moral beliefs, and this serves as a kind of external check for our moral theories. If we are faced with objections to our views, we won't be able to rely solely on our conventions and preferences; if we want our moral views to be taken seriously by others, we will have to respond to their objections with reasons. This reveals the importance of diversity in moral theory: without diversity we wouldn't have the theory incongruence that challenges our own theories and motivates us to critically evaluate each others' theories.

Consider an issue of continued controversy: the propriety of retributive punishment. We find quite different intuitions on the matter among both philosophers and non-philosophers. Some find the idea of retributivism intuitively abhorrent; others find it the only intuitively satisfying notion of punishment. If there is a moral fact about the propriety of retributivism, our chances of discovering it are enhanced by the fact that people have different intuitions. For the presence of divergent positions inspires better reasoning. The results recounted above from Schulz-Hardt et al. (2002) are particularly instructive here, for they found that genuine dissent was more effective than mere devil's advocacy at getting people to reason better.

We think that the foregoing gives the moral realist good grounds for being enthusiastic about diversity. However, an important challenge has been lurking in the background. One might well think that the analogy with science collapses at a critical juncture. The diversity in science is not at the level of observational data, but rather at the level of *theoretical* commitments; by contrast, the ethical diversity we are invoking is diversity in *intuition*, which is supposed to serve as evidence for a theory.¹⁴ Although this is an important objection, there are several reasons why it does not undercut the claim that diversity in ethical intuitions carries advantages for realist ethics.

First, note that some realists who deploy the analogy with science quite explicitly maintain that ethical intuitions are like scientific *intuitions* (e.g., Boyd 1988). Those theorists might maintain that the analogy remains close. But one might retain the analogy even if one maintains that ethical intuitions are akin to observational data in science. For we do find diversity in the results of scientific experiments, and this diversity can be an important catalyst for scientific progress. One recent illustration comes from work on mice. Some of the pioneering work on gene-environment interaction was triggered by the fact that different labs were getting different results on gene knock-out experiments with mice. Wahlsten took seriously the fact that labs were getting different results despite attempting to do closely replicable science. The fact that the results nonetheless diverged was the inspiration for further research. It was *because of* the conflicting results that Wahlsten dug deeper and discovered a wide range of gene-environment interactions. It turns out that a number of overlooked environmental variables make a difference, including whether researchers use gloved hands or forceps on the mice, whether the mice have corn cob or aspen chip bedding, and which experimenter tests the mice (Wahlsten 2001, 701; also Crabbe et al. 1999). The diversity in results led to a much deeper appreciation of the role that the environment plays in gene expression. Had researchers failed to notice the diversity in results, we would likely continue to have a much cruder and less accurate theory of how genes influence behavior. Similarly, the diversity of intuitions about retributive punishment has led to theories of punishment that are, at a minimum, much less crude than they would be without the diversity (see, e.g., Bedau 2005).

Although there are ways to try to hold fast to the science analogy, the more important point to appreciate is that even if the analogy with science does falter, it's still plausible that diversity provides an advantage in ethical theory. What is important for scientific progress is theoretical diversity, and diversity in ethical intuition patently gives rise to diversity in ethical theory. That is the critical point. The very reasons that theoretical diversity is good for science – error correction, raising background assumptions, motivated reasoning – seem to apply to ethical theory as well, which suggests that diversity is good for ethical theory, regardless of how tightly the science analogy fits. Indeed, as we'll argue in the next section, even if we reject the analogy entirely and realism along with it, intuitional diversity remains a good thing for ethical theory.

VII. Diversity and moral progress, without realism

Our discussion of ethical intuitions and diversity has thus far proceeded on the analogy with science together with a presumption of moral realism. But many meta-ethicists reject realism altogether and favor an analogy with aesthetics or perhaps even etiquette (e.g., Ayer 1946; Harman 1977, Hume 1978 [1739]). Of course, this doesn't exclude a role for intuitions. After all, we have intuitions about cases even for etiquette. Consider, for instance, the following case:

¹⁴ Thanks to Matt Bedke and Mark Timmons for putting this objection to us.

John was setting the table and put the salad fork in the red wine glass. Was that the right way to set the table? Even people who know little about table settings will likely spontaneously judge that this isn't the right way to set the table. For a meta-ethicist who rejects realism, intuitions might play an important role in revealing the *commitments* of a person or a community without the intuitions counting as *evidence* of some truth or fact.

What, then, of the moral irrealist? Can diversity be helpful for the theorist who doesn't believe that there are mind-independent moral facts or moral truths? The answer to this question will vary depending on the goals of the specific irrealist theory. Obviously for a nihilistic irrealism there is no room for improving our moral views, except, perhaps, by eliminating them. But for many other irrealist theories, moral progress is possible (e.g., Harman 1996, Horgan & Timmons 2006a, 285-286; Hume 1978 [1739]; Nichols 2004; Prinz 2007). The criteria for moral progress for irrealists haven't been articulated very fully, but irrealists might appeal to familiar criteria such as coherence, simplicity, elegance, coverage, and stability (see Brink 1989; Daniels 1996; Horgan & Timmons 2006b; Kagan 1991). Theories can be better or worse along these dimensions even if the theories don't aspire to truth or reality. For instance, some irrealists maintain that, although our moral principles don't correspond to moral reality, the set of principles might be adjusted in ways that would be widely embraced under idealized conditions. Our moral beliefs can come to "better accord with the moral norms that would be accepted by individuals under certain idealized conditions" (Horgan & Timmons 2006a, 285). On such irrealist views, diversity in intuitions will facilitate moral progress for much the same reasons diversity facilitates progress if realism is true: diversity calls attention to unrecognized background assumptions, triggers better reasoning, and offers a wider set of options from which to modify our theory.

Conclusion

The rich evidence of diversity in intuitions has called into question the legitimacy of the use of intuitions in philosophy, causing some philosophers to impugn their status altogether. We believe this response is premature. It is of course true that not all diversity is good. Some views drain resources to no good end, some views have a pernicious polarizing effect. This holds for scientific diversity (Sunstein 2003, 7) as well as ethical diversity. Nonetheless, we think philosophers have neglected the upside of diversity in ethical intuitions. Philosophers of science have long celebrated the importance of diversity for scientific progress. Similarly, we have argued, we should celebrate the diversity in ethical intuitions. In science, diversity leads to greater recognition of errors and background assumptions; something similar is likely true for ethical theory. In addition, we have argued that there is a natural psychological explanation for why diversity would lead to improved reasoning in individual scientists – disequilibrium and motivated reasoning stimulate sharper criticism and evaluation. The cognitive virtues afforded by disequilibrium and motivated reasoning would also extend to reasoning in the ethical domain. Thus, there are good reasons for moral theorists to welcome the variations in ethical intuitions.

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