

independent of the subject's interpretation of its meaning. Hence, the more different the culture studied from the culture where the stimulus situation was invented, the more likely the meanings of the task will be harder to communicate with the requisite exactitude in distant field contexts.

A revealing illustration can be found in cross-cultural research on the Ultimatum Game (see Henrich et al. 2005). Were cross-cultural researchers working across 15 cultures in fact able to standardize the practice and subjective meaning of "playing a game with an anonymous other"? Consider, for example, the behavior of the Au and Gnau peoples of Papua New Guinea. Many "proposers" offer more than 50% of the available currency. Many of these offers are turned down by the "responder," leaving both "players" with nothing. The "WEIRD" populations of the world don't play that (apparently strange) way.

What description of goals, values, and pictures of the world can help us understand what the stimulus situation actually meant to those New Guinea subjects? Henrich et al. (2005) offer an explanation: "The rejection of seemingly generous offers, of more than half, may have a parallel in the culture of status-seeking through gift-giving found in Au and Gnau villages, and throughout Melanesia. In these societies, accepting gifts, even unsolicited ones, implies a strong obligation to reciprocate at some future time" (p. 811). Is that not *prima facie* evidence that the very idea of playing with an anonymous other did not compute or translate well in the mind or language of those non-WEIRD subjects, and that in effect they were not playing the same game as the one played by a typical "weird" American college student?

Indeed, the very idea of cultural difference might well be described as not playing the same game. Hence, we learn much about the culture-specific mentality of Melanesian peoples by trying to give a "thick description" of their local goals, values, and pictures of the world, so as to understand how and why the Ultimatum Game becomes a different stimulus situation (a different *affordance*, if you prefer that concept) as it crosses borders and travels around the world. I suspect Don Campbell would have been pleased to see the field of cultural psychology built on the basis of his methodological doubts.

## Philosophy and WEIRD intuition

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**Abstract:** From Plato to the present, philosophers have relied on intuitive judgments as evidence for or against philosophical theories. Most philosophers are WEIRD, highly educated, and male. The literature reviewed in the target article suggests that such people might have intuitions that differ from those of people in other groups. There is a growing body of evidence suggesting that they do.

In the opening pages of Plato's *Republic*, Cephalus suggests that what justice requires is speaking the truth and paying one's debts. But Socrates immediately offers a thought experiment to show that Cephalus's account of justice is not correct:

Suppose that a friend when in his right mind has deposited arms with me and he asks for them when he is not in his right mind, ought I to give them back to him? No one would say that I ought or that I should be right in doing so, any more than they would say that I ought always to speak the truth to one who is in his condition. (Plato 1892, *The Republic*, Book I, p. 331)

When Cephalus agrees, Socrates concludes that "speaking the truth and paying your debts" is not an adequate account of justice.

Philosophy has changed in many ways in the 2,400 years since Plato wrote the *Republic*, but the method Plato uses in this passage is still one of the most basic tools in the philosopher's toolkit. Although there is some debate about how, exactly, the method should be characterized, the basic outlines are clear enough. A philosopher describes a real, or more often an imaginary, situation and asks his audience whether the people or objects or events described have some philosophically important property or relation: Is the agent's action *unjust*? Was it *morally wrong* to push the large man off the footbridge to stop a trolley that would otherwise kill five people? (Thomson 1976) Does the person who holds a ticket in a lottery where the odds are one in a thousand *know* that the ticket won't win? (Kyburg 1961, p. 197; see also Hawthorne 2004). Does the "Chinese Room" *understand* the story? (Searle 1980) When things go well (as they always did in Plato's dialogues!), the audience will agree that the answer is intuitively obvious, and the philosopher will conclude that the content of these intuitive judgments is probably true. If it is intuitively obvious that it is wrong to push the man off the footbridge, and that is what the philosopher's theory entails, then this counts as evidence for his theory. If it is intuitively obvious that the Chinese Room does not understand the story or have other intentional states, but a philosopher's theory entails that it does, this counts as evidence against his theory.

The overwhelming majority of philosophers who use this method are WEIRD. Moreover, as reflected in my choice of pronouns, the majority of those who teach in North American and European philosophy departments are male. And, of course, on at least one dimension, professional philosophers are extreme outliers among WEIRD people, as most of them have undergone five or more years of training and vetting in one of the 30 or 40 leading graduate programs. About a decade ago, as we became acquainted with the emerging literature reviewed by Henrich et al., my colleagues and I began to wonder whether these WEIRD philosophers might have weird philosophical intuitions – intuitions that differed from those of people who did not share their cultural and educational background. To find out, we did something philosophers often do – we scoured the literature. We also did something that philosophers rarely do: We designed and ran our own experiments aimed at finding out whether people who were not WEIRD shared the intuitions that play such a central role in Western philosophy.

Although this work is still in its infancy, I think it has begun to provide an important addendum to Henrich et al.'s survey suggesting that, in a number of areas of philosophy, the intuitions of philosophically trained, WEIRD males are indeed quite different from the intuitions of people in other cultural groups. Space does not permit an exhaustive discussion of the literature, but here are some of the highpoints.

**Epistemology.** 1. Weinberg et al. (2001) and Nichols et al. (2003), showed that American students of European ancestry and American students of East Asian ancestry have different intuitions about a variety of thought experiments that have played a central role in contemporary philosophy. They also report differences in intuitions between high- and low-socioeconomic status (SES) participants, where years of education was the major determinant in classifying a participant as high or low SES.

2. Starmans and Friedman (2009) found a large gender difference in intuitions on a "Gettier" case similar to those that are widely discussed in the philosophical literature. In recent years, there has been growing concern about the under-representation of women in philosophy (Haslanger 2008). Though the phenomenon almost certainly has many causes, this striking finding suggests one that most philosophers have been loathe to consider: Many women students may have intuitions that differ from those their male professors insist are correct.

**Ethics.** 1. The classic work of Brandt (1954) reports some dramatic differences between the moral judgments of Hopi people and white Americans that apparently cannot be explained by differences in factual beliefs.

2. Abarbanell and Houser (in press) report that in a variety of carefully controlled experiments, rural Mayan participants did not exhibit the

“omission” bias that has been widely documented in a number of large-scale societies.

**Philosophy of language.** Machery et al. (2004) report that Hong Kong Chinese and Americans of European ancestry have different intuitions on a thought experiment that has played a central role in the philosophical theory of reference. Deutsch et al. (in preparation) reinforce these findings, and Machery et al. (2009) include a preliminary report of additional studies in Mongolia, India, and France. (For further discussion, see Machery’s commentary.)

There is no shortage of debate about the robustness of these findings and about their implications for the viability of the venerable philosophical practice of using WEIRD people’s intuitions as evidence (Mallon et al. 2009; Sosa 2009; Stich 2009). My own view is that these studies pose a major challenge to that practice, because, when the intuitions of different groups diverge, there is no reason to think that WEIRD people’s intuitions are more likely to be true.

## Authors’ Response

### Beyond WEIRD: Towards a broad-based behavioral science

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**Abstract:** In our response to the 28 (largely positive) commentaries from an esteemed collection of researchers, we (1) consolidate additional evidence, extensions, and amplifications offered by our commentators; (2) emphasize the value of integrating experimental and ethnographic methods, and show how researchers using behavioral games have done precisely this; (3) present our concerns with arguments from several commentators that separate variable “content” from “computations” or “basic processes”; (4) address concerns that the patterns we highlight marking WEIRD people as psychological outliers arise from aspects of the researchers and the research process; (5) respond to the claim that as members of the same species, humans must have the same invariant psychological processes; (6) address criticisms of our telescoping contrasts; and (7) return to the question of explaining why WEIRD people are psychologically unusual. We believe a broad-based behavioral science of human nature needs to integrate a variety of methods and apply them to diverse populations, well beyond the WEIRD samples it has largely relied upon.

Frankly, we are stunned. We expected that our target article would provoke ferocious counter-attacks among a substantial cross-section of researchers from several fields. Awaiting the commentaries, we steeled ourselves, bracing for harsh and relentless rebukes. One renowned social psychologist, who had read an early draft, warned us that our colleagues would probably spit on us. What arrived were 28 commentaries from an esteemed and

diverse set of scholars, including anthropologists, economists, linguists, neuroscientists, philosophers, primatologists, and sociologists, as well as cognitive, developmental, personality, and social psychologists. These commentaries largely cohere as an emerging synthesis, offering important expansions and extensions of our argument, as well as raising several interesting points for debate and discussion. There is now sufficient evidence from diverse human populations to indicate that researchers can no longer continue to – explicitly or implicitly – infer the universality of psychological processes or behavior from studying only WEIRD people and their children. Our reading indicates that 23 of 28 commentaries largely support our main thesis, although they raise important issues and fruitful points for debate. Of the remaining five, only one is in decisive disagreement (**Gaertner, Sedikides, Cai, & Brown** [Gaertner et al.]), with the other four (**Khemlani, Lee, & Bucciarelli** [Khemlani et al.], **Machery, Maryanski, and Shweder**) seeming somewhat ambiguous or ambivalent as to their precise views. Of course, it is possible that those who disagree most strongly with our assessment chose not to comment. We look forward to engaging representatives of this position in the future.

Our reply is ordered as follows: We (1) consolidate the additional lines of evidence, extensions, and amplifications of our target piece made by various commentators; (2) discuss the importance of integrating experimental and ethnographic methods, and show how researchers using behavioral games have done precisely this; (3) present our concerns with arguments from several commentators that separate “content” and “representations” from “computations,” “learning,” or “basic” psychological processes; (4) address concerns that the patterns we highlight marking WEIRD people as psychological outliers arise from aspects of researchers and the research process; (5) respond to **Gaertner et al.**’s claim that being members of the same species means we must have the same invariant psychological processes; (6) address criticisms of our categories and rhetorical strategy; and (7) return briefly to the question of explaining why WEIRD people are psychologically unusual.

### R1. Additional evidence, extensions, and amplifications

Here we consolidate additional evidence, extensions, and amplifications of our target article. Seven commentaries reviewed empirical evidence that we did not present. All of this evidence supports the notion that WEIRD people are unusual, and none of it challenges that claim. Several of these lines of evidence are complementary with each other, and suggest some theoretical reasons for the unusual nature of WEIRD people, an issue that we return to in the final section. Nine additional commentaries supplied insightful amplifications, nuances, or extensions of our efforts.

#### R1.1. Additional support for the argument that WEIRD populations are unusual

1. **Chiao & Cheon** point out that the vast majority of cognitive neuroscience findings are based on WEIRD brains. They then review findings from the nascent field of cultural neuroscience showing how population-level differences in experimental findings reveal themselves in