ATHEISM AND INFERENTIAL BIAS

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Abstract. While the cognitive science of religion is well-trodden ground, atheism has been considerably less scrutinized. Recent psychological studies associate atheism with an intellectual virtue, inferentiality[1] (Shenhav 2011; Norenzayan, Gervais, and Trzesniewski 2012; Norenzayan and Gervais 2013; Pennycook 2012). Theism, on the other hand, is associated with an intellectual "vice", intuitive thinking. While atheism is allied with the attendant claim that atheism is the result of careful rational assessment of the relevant evidence, theism is considered the result of a lack of reflection on the relevant evidence (or careless disregard of the evidence). Atheism, then, is rational, but theism, then, is irrational.[2] In this essay, we will assess the import of these studies and the attendant claims that these differences in thinking styles entail differences in rationality.

I. ATHEISM AND INFERENTIAL THINKING

If religious belief is, as the cognitive science of religion suggests, culturally recurrent, natural, and non-inferential (Barrett 2004; McCauley 2011; Atran 2002; Boyer 2001), then we should expect unbelief to be relatively rare,

[1] These studies take "analytic thinking" as a synonym for "inferential thinking" (unlike philosophers, who typically take analytic thinking to be an intuitive or non-inferential or immediate judgment). Since the intended audience of this essay is philosophers, I will not follow the psychologists and will instead use the term "inferential." I will remind the reader throughout of how I am using the terms.

[2] While the psychologists themselves are often careful not to make such inferences in their studies, headlines (including prestigious journals such as *Scientific American*) based on these studies do. Consider: "Logic Squashes Religious Belief, A New Study Finds" http://psr.sagepub.com/content/early/2013/08/02/1088868313497266.full; "Losing Your Religion: Analytic Thinking Can Undermine Belief" http://guardianlv.com/2013/08/atheists-more-intelligent-than-religious-believers-says-new-study/.

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nonnatural and inferential.[3] Recent studies have shown a correlation between inferential thinking and unbelief. Do such studies show that atheists are rational but theists are not? Do they demonstrate the rational superiority of atheism over theism?

If one typically finds oneself, through no inferential effort on one's own part, believing in God, one might need to reason one's way to unbelief. Consider an analogy with folk physics, which like religious belief is culturally recurrent, natural, and intuitive (McCauley 2011). Folk or naive physics is our unreflective, perceptual understanding of the physical world. Folk physics might include simple and true generalizations such as "Dropped rocks fall to the ground" and "Rocks thrown hard enough at windows will break them." But it also includes common-sense statements that run contrary to contemporary physics, which postulates a host of unobservable entities such as atoms and photons (and may even hold that our natural notions of past and future are illusory). The movement from folk physics to contemporary physics required an enormous amount of inferential effort, effort sufficient to override at least some of our deep and natural intuitions.[4] Contemporary physics, requiring abstract thinking and complicated mathematics, is deeply counterintuitive and contrary to what we observe. Belief in contemporary physical theories, then, requires inferential thinking.

Likewise, the rejection of our very natural religious beliefs may involve inferential thinking.[5] Just this sort of reasoning guided Will M. Gervais and Ara Norenzayan through a series of studies to determine the effect of inferential (what they called "analytic") thinking on religious belief and unbelief (Gervais and Norenzayan 2012). Because the aforementioned head-

[3] We are speaking in terms of general tendencies, not cognitive necessities. So, for example, while we (the entire group of human beings) may be generally inclined toward intuitive religious belief, not everyone will be a religious believer, and not every religious believer will have acquired his or her beliefs non-inferentially. The claim that we are typically natural and nonreflective theists is consistent with there being non-inferential atheists and inferential theists.

[4] Given our repeated relapses into folk physics, one might think that we can never fully overcome our natural dispositions.

[5] Again, I am speaking in generalities. One might believe $e = mc^2$ because they were told it, not as a result of inferential thinking (though I doubt, under such circumstances, one would understand it well at all). Moreover, one might be an atheist because one's parents taught one at the earliest age that there was no God (and so required no inferential thinking on one's part).

lines relied on their studies, I will consider them in some detail.[6] Gervais and Norenzayan offered a series of inferential prompts to determine their effect on religious belief and unbelief. They hypothesized that inferential thinking would override one's more natural and intuitive cognitive inclinations toward religious belief.

In the first study, using the Cognitive Reflection Test developed by Frederick (2005), they offered three problems. Their study will make more sense if you stop and think through your own response to the problems before proceeding to their analysis. The problems are as follows:

1. A bat and a ball cost $1.10 in total. The bat costs $1.00 more than the ball. How much does the ball cost? ____cents

2. If it takes 5 machines 5 min to make 5 widgets, how long would it take 100 machines to make 100 widgets?_____minutes

3. In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake?_____days

In each case, the quick and easy intuitive response is incorrect, while the more deliberate inferential response is correct.[7]

Participants were then measured with respect to religious belief and unbelief, responding to questions such as the following:

* In my life I feel the presence of the Divine

* It does not matter as much what I believe as long as I lead a moral life

* I believe in God

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[6] Although Gervais and Norenzayan's studies prompted the headlines, they themselves resisted the sensational conclusions of the preceding section. They write: "Finally, we caution that the present studies are silent on long-standing debates about the intrinsic value or rationality of religious beliefs, or about the relative merits of analytic and intuitive thinking in promoting optimal decision making" (Gervais and Norenzayan 2012, 496).

[7] The quick and easy intuitive yet wrong response to (1) is .10, while the correct analytic, deliberate answer is .05, to (2) is 100 while the analytic answer is 5 and to (3) is 24 while the analytic is 47.

* I just do not understand religion
* God exists
* The devil exists
* Angels exist

Gervais and Norenzayan found that success on the Cognitive Reflection Test was negatively correlated with affirmations of religious belief; inferential thinking, they claimed, was negatively correlated with religious belief. So, in their terms, Gervais and Norenzayan concluded: "This result demonstrated that … the tendency to analytically override intuitions in reasoning was associated with religious disbelief" (Gervais and Norenzayan 2012, 494).

A second set of studies involved unconscious primes, with a series of prompts designed to elicit inferential thinking. For sake of illustration, let us consider just one, the disfluency prime.[8] Disfluency Primes involved fuzzy fonts (*prime sample font*) rather than the large clear fonts of the control group (**control sample font**). Gervais and Norenzayan's claim is that having to figure out a fuzzy font engages inferential thinking in a way not required when reading large and clear fonts. The subjects again completed a measure of belief in God/religiosity.

Again, Gervais and Norenzayan concluded that the set of studies reinforce the hypothesis that inferential processing decreases religious belief. More recent studies affirm the hypothesis that if religious belief is more intuitive and non-inferential, then unbelief should be a product of inferential reasoning.

Shenhav, Rand and Greene (2011) conducted a CRT study similar to that of Gervais and Norenzayan with over 800 participants (U.S. residents) with a median age of 33; intuitive responses were positively correlated with religious belief and inferential responses with unbelief. Their two other studies com-

[8] The other studies involved implicit primes and art primes. Implicit Primes involved arranging words into sentences with the prime group given thinking terms (reason, analyze, ponder, etc.), while the control group was given unrelated words (hammer, shoe, jump, etc.). Participants in the art control group stared at a "neutral" image such as The Discobulos, a sculpture of a man with a discus, whereas the remainder was primed by staring at The Thinker (an "artwork depicting a reflective thinking pose").

bine with this one to show a correlation between intuitive thinking and belief in God and inferential (analytic) thinking and unbelief.

Pennycook et al. (2012) sampled over 200 people across the United States with a median age of roughly 35. They measured inferential thinking style (again which they called "analytic cognitive style," ACS) in two ways, first with a variant of the Cognitive Reflector Test and second with Base-Rate Conflict (BRC) problems (problems that contain a conflict between a stereotype and probabilistic information). Since religious engagement is likely correlated with religious belief, they measured belief according to an individual's reported level of participation in, for example, church and prayer. They also measured religious beliefs through one's degree of belief in heaven, hell, miracles, afterlife, angels and demons, and an immaterial soul. Finally, they queried participants about what kind of God, if any, they believe in: answers ranged from theism to atheism. While they produced many nuanced results, overall they affirmed the intuition that inferential thinkers are more likely to be unbelievers than intuitive thinkers. Their first study, for example, offered evidence of "an analytic [inferential] tendency to ignore or override initial intuitive responses" (339). They concluded that inferential processing decreases the likelihood of supernatural belief.

II. SO FAR

Cognitive science of religion has apparently shown a correlation between intuitive thinking and religious belief, on the one hand, and between inferential thinking and unbelief, on the other. Note what it has and hasn't shown. It has shown a correlation between thinking styles and belief: an inferential thinking style is correlated with atheism and agnosticism, and an intuitive thinking style is correlated with religious belief; those who are inclined to a more inferential thinking style are more likely to be atheists or agnostics, and those who are inclined to intuitive thinking style are more likely to be religious believers. It has not shown that anyone's unbelief is a result of conscious and careful reflection on good arguments against belief in God. And it has not shown that intuitively based God beliefs are irrational. Moreover, it has not shown that individual atheists have inferential thinking styles and that individual theists have intuitive thinking styles; nor has it shown the basis,

inferential or intuitive, of any particular person's belief or unbelief in God. It has simply shown that a certain thinking style is correlated with a certain belief (or unbelief). Anyone who draws any additional conclusions — about rationality-irrationality or truth-falsity — is going way beyond what any of these studies warrant (probably in ways that reflect favorably upon what the author believes).

Both intuitive and inferential beliefs can be true; both can be rational.[9] There is more than I can argue for here, but let me make the basic point. It is simply inconducive to our nature as human beings to restrict rationality to beliefs which can be inferred from some body of evidence. If we were to restrict ourselves to inferential beliefs, we would have nothing to believe (belief must start somewhere, not every belief can be inferred). If we have rational inferential beliefs, we must also have rational non-inferential beliefs.

Inferential beliefs are often based on beliefs that are ultimately intuitive. Reason does not liberate us from intuition. Inference operates on our assumptions about the ways reality seems to us (intuition). This is true, I think, in every domain of human inquiry. Our ordinary, common sense beliefs rely on intuitions (non-inferential assumptions) about space and time, the reliability of sense perception, belief in the past, and belief in an external world. Scientific beliefs assume without argument the uniformity of nature, the inductive principle, and truths of mathematics. In this section, I will focus on philosophical beliefs, in particular, belief in God.

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[9] I am not insensitive to intuitive biases, which have been well documented (Kahneman 2011). But there are also inferential biases. For example, we tend to be sensitive to evidence or arguments which support our beliefs and to be insensitive to evidence or arguments that are contrary to our beliefs. Not all inferential beliefs are true. People have inferred such untrue beliefs as the phlogiston theory, "women should aspire to be beautiful" (since they cannot be rational), and "Nixon will make a great president." Scientists seem to have inferred themselves into a contradiction between its two most widely accepted and successful theories—quantum mechanics and general relativity. They cannot both be true. Finally, philosophers, among the most ardent defenders of argument, continue to hold a wide diversity of incompatible beliefs. Some philosophers believe enthusiastically while others deny with equal vehemence the following and more (I take just a few claims in ethics; examples could be drawn from every area of philosophy): there are moral absolutes, there are moral facts, and there is human virtue.

III. ARGUMENT AND INTUITION

Reliance on intuition is often disguised by the remarkable complexity of philosophical arguments. Beneath the symbols, modalities, and nested propositions, one finds an intuition. In every philosophical argument, there is at least one fundamental premise that cannot be argued for. Dig deep enough, and one will find the unargued place where one starts. This unargued starting point is an intuition, an immediate, non-inferential judgment. Such intuitions may be elicited by stories, motivated by cases, critiqued by counterexamples, or appealed to in theories, but they are not and cannot be argued for. One "gets them" (or not).[10]

Although we must rely on our intuitions, we are not so metaphysically astute that we can clearly and certainly perceive those involved in, for example, an argument for (or against) the existence of God, for an absolute and universal moral standard, or for metaphysical idealism. Relevant intuitions in these fields might include claims that an infinite regress of causes is absurd, that moral statements require grounding, and that sensory appearances can be adequately accounted for without reference to a material world. Discussions in political theory, social policy, ethics, the meaning of life, the nature of human persons, determinism and free will likewise rely on crucial premises that are not universally discoverable by intuition. Widespread and interminable disagreement from epistemically equal peers is evidence against the indubitablity of philosophical intuition (McGinn 1993).[11]

We all have substantive philosophical beliefs about reality, which betray our commitments to fundamental, intuitive beliefs. Most substantive philosophical beliefs for most people are immediately held, non-inferential. I take it that most ordinary folk (as well as most philosophers and scientists) hold few of their philosophical beliefs — in free will, say, or the objectivity of mo-

[10] Some philosophers contend that philosophical intuitions have evidential value, which others ardently reject (Cappelen 2012). There is increasing empirical evidence that intuitions vary according to, for example, cultural background, socioeconomic status, and affective state (Weinberg et al. 2001; Nichols et al. 2003; Machery et al. 2004; Nichols and Knobe 2007; Swain et al. 2008).

[11] Joshua Alexander and Jonathan Weinberg argue that "the problem with standard philosophical practice is that experimental evidence seems to point to the unsuitability of intuitions to serve as evidence at all" (Alexander and Weinberg 2007, 63).

rality — on the basis of an argument. For many, including some philosophers, belief in God is immediate and non-inferential. And for some others, perhaps for more philosophers, belief in God is mediate and inferential. If the studies on atheism and inference are correct, relatively more unbelievers have come to their unbelief through inference.

Everyone's belief or disbelief in God, inferential or not, is grounded, ultimately, in intuition.[12] For most religious believers, belief in God is intuitive, that is, non-reflective or non-inferential. Those whose belief in God is inferential rely on arguments that are grounded in intuitions (the principle of sufficient reason, for example, or the objectivity of morality). I suspect that most unbelievers are atheistic not due to careful assessment of theistic arguments: they are, instead, mindblind, conformity bias, incredulous, or apatheist atheists. What about those whose rejection of theism was consciously inferential? Even those atheists had to rely on intuitive (non-inferential) epistemic principles (perhaps assuming that belief in God is like a scientific hypothesis and so must be accepted or rejected according to the canons of scientific rationality). Or such atheists had to assume various metaphysical principles (perhaps rejecting the principle of sufficient reason or the objectivity of morality).

We can get some understanding of the role of intuition in the formation of philosophical beliefs by placing Plato and Aristotle side by side. Plato was deeply suspicious of sense perception, hoping to escape from this elusive and illusive shadowy world into the Real, ideal, and universal world of mathematics and the Good. Although deeply influenced by his teacher, Aristotle was constitutionally disposed to muck about, relish, and find reality in the very material world that Plato despised and to deny it to the immaterial world that Plato loved. Aristotle's philosophy affirms this world, particulars, and matter. While both argued for their particular worldviews, they relied fundamentally on different intuitions. Both could account equally well for all that humans experience. And yet, their conclusions were driven by their differing intuitions that the truth lies in this direction rather than that one (see James 1956

[12] We must also assume (take as intuitively given) various epistemic principles about the nature and normativity of belief. For example, one must assume (or reject) (a) belief in God must be based on evidence, or (b) disagreement among those who are one's intellectual equals undermines one's rationality. If one affirms (a), one must also make assumptions about the nature of argument — deductive, probabilistic, cumulative case, inference to best explanation?

and James 1981). While their intuitions found expression in arguments, intuition, not inference, ultimately drove the development of their worldviews.

In philosophy, inferential and intuitive thinking are both grounded, ultimately, in intuition. Despite different styles, philosophical thinking is deeply and irremediably grounded in intuition.

IV. INFERENCE AND BIAS

Hilary Kornblith (2012) argues that there is no reason to think reflection (inference) is better that non-reflective (non-inferential) thinking. Empirical studies have shown that, due to confirmation bias and our tendency to rationalize (after the fact), reflection is often inaccurate. When challenged, reflection yields both rationalizations and a false sense that we have good grounds. Reflecting on beliefs, then, seldom gets one closer to the truth.

We seldom acquire beliefs as the result of coolly rational, explicit and dispassionate attention to arguments (though we pride ourselves at having done so). Our beliefs and practices are more often the product of universally pervasive, unconscious (implicit) processes that are automatically activated in a wide variety of circumstances. "At the nexus of social psychology, cognitive psychology, and cognitive neuroscience has emerged a new science called 'implicit social cognition' (ISC). This field focuses on mental processes that affect social judgments but operate without conscious awareness" (Kang and Lane 2010: 467). These pervasive biases are triggered unconsciously, involuntarily, and without one's awareness or intentional control. While we may explicitly disavow, for example, racism, studies show that we are implicitly a seething cauldron of anti-black prejudices and it is those prejudices which move us to believe and act in various ways (the studies here are unequivocal and undeniable). And we are not biased only against black people. We are biased with respect to age, gender, skin color, ethnicity, nationality, race, sexual orientation, class, body image and, of course, religion.

Implicit bias studies show that people of all races manifest racial biases despite sincere declarations to the contrary. For example, we may explicitly disavow racism but our very real underground motivations engender feelings of superiority, beliefs that narrate privilege, and practices that dispossess and disadvantage black people. "In fact, the serious discrimination is implicit, subtle and nearly universal. Both blacks and whites try to get a white partner when asked to team

up to do an intellectually difficult task. In computer shooting simulations, both black and white participants were more likely to think black figures were armed. In emergency rooms, whites are pervasively given stronger painkillers than blacks or Hispanics" (Brooks 2013). Even after sustained training, thorough self-examination, and genuine desire for change, implicit biases persist (and surface in ways that harm those on the receiving end).

Every human being is equipped with unconscious mental processes that are automatically activated in a wide variety of circumstances.

One study showed that people are three times more likely to put money in an untended coffee tin, the "honesty box," if the tin is adorned with eyeballs. While everyone should pay the listed amount for their cuppa, a coffee tin decorated with flowers received 1/3 of the funds of the eyeball-adorned tin. Moreover, the payers are unaware that they are paying their fair share because they sense they are being watched. Subjects who are informed would surely concede their irrationality had they been informed that they had been unconsciously moved to act by a set of eyeballs. Cheating and littering likewise decrease when people feel they are being watched (all it takes is images of eyeballs). Moreover, people are inclined to be more generous when unconsciously prompted with religious words such as "spirit" or "church." Unconscious religious promptings dramatically increase the amount of money a subject is willing to share with a stranger.

Although most were moved to generosity unconsciously, most subjects refuse to believe that they were unconsciously moved to act. Most subjects tell themselves this story: "As a good citizen, I pay what I owe. Some other people may be unconsciously moved by the presence of silly eyeballs, but I acted out of a sense of duty." Or in the sharing case: "I'm a good and generous person. Other people may have been unconsciously moved to share after seeing religious words but not me. I shared because I'm generous." These stories are true in some cases but not in most. And yet we find ourselves telling ourselves (and sometimes others) these sorts of stories, which are little more than ex post facto rationalizations that make us look or feel better — moral rational and virtuous, more in self-conscious control of our beliefs and actions — than we really are. We are considerably more the product of unconscious mental processes than we are of conscious, deliberate, freely exercised mental processes.

These unconscious mental processes operate clandestinely, bypassing one's reasoning processes; one believes or acts unreflectively. I may think I decided

(along with thinking that I've carefully and dispassionately assessed the evidence) but "find myself believing" is what typically happens. I never (self-consciously) decided to be a proud (white) privileged American with a host of attendant biases against, say, blacks, Arabs, women, fat people, or Finns. Having grown up in middle class white America, I simply absorbed a huge number of identity-shaping beliefs and practices (beliefs and practices that now seem to me as commonsensical as believing in the past and in the external world).

When prompted, a whole host of these identity-shaping beliefs automatically create beliefs and attitudes or move me to act. I bristle when Europeans criticize American interventionism, I feel fear when approached by young black men on a street at night, and I viscerally react when a turbaned-bearded man stands up in an airplane. And I act — I argue with the European, I cross the street to avoid the young black men, and I stand up in the plane just in case. Or I vote for politicians with more isolationist policies, or don't hire people named Shaniqua, or demand that Muslims integrate into my own ways of living (that they become more like me).

When confronted with an implicitly instigated belief-action, I tell myself a story, one that makes sense of my beliefs and actions, a story that *rationalizes* my behavior (within which I am a careful rational reflector and virtuous agent). Such stories, which come after but are offered as the explicit reasons for one's beliefs or actions, are nothing more than confabulations (bullshit, to use the non-technical term). I make myself the rational hero of my own drama. I tell myself a story of US exceptionalism: how our country's unrivaled commitment to freedom was blessed by God with astounding prosperity and power (and now, responsibility). Or I tell myself a story of people in poverty making bad choices. Or I tell myself a story of the connection between Islam and violence (and my own culture's moral progress and purity). And I feel better — more rational, more virtuous — after hearing and heeding my own story. In fact, this falsifying narrative makes me more confident in my belief, more proud of my intellectual prowess, more assured of my virtue. And moves me further from the truth.

Kornblith criticizes the philosophers' insistent demand for rational reflection because of this very human tendency to offer rationalizations of our previously (intuitively) held beliefs. After providing such rationalizations, subjects are often more confident of their belief but for no good reason. While they find their alleged justifications of their initial beliefs to be completely persuasive, they are

simply bad reasons which offer no legitimately rational support for their initial beliefs. Just as humans are influenced in a wide variety of non-truth-conducive ways in their acquisition of intuitive or immediate beliefs, they are equally susceptible to non-truth-conducive ways of rationalizing their beliefs. He writes: "The idea, then, that by reflecting on the source of our beliefs, we may thereby subject them to some sort of proper screening, and thereby improve on the accuracy of the resulting beliefs, is simply misguided. When we reflect in this way, we get the impression that we are actually providing some sort of extra screening of our beliefs, and we thus have the very strong impression that we are actually doing something to insure that our beliefs are, indeed, reliably arrived at. But this is not what we are doing at all" (Kornblith, 24-25).

This act of what Kornblith calls "self-congratulation" does little more than make us feel better about ourselves and superior to those we've judged defective. As Kornblith points out, we have a strong tendency to prefer beliefs simply because they are ours. We have a strong tendency toward belief conservatism — to preserve or conserve our already held beliefs. We have a tendency to notice and favor evidence that supports our previously held beliefs and to ignore or discount evidence that opposes them. We easily remember evidence in favor of our beliefs while we just as easily forget evidence that opposes them. On those moments when we do stop and reflect, little wonder that our previously held beliefs are overconfidently held and asserted.

V. CONCLUSION

Since philosophical arguments essentially rely on intuitions, neither resting on intuition nor relying on argument is better suited at gaining the truth.[13] With respect to philosophical matters (including belief or disbelief in God), then, intuition and inference are on epistemically equal ground. If rationality involves doing the best one can to get in touch with the truth, neither intuition nor inference has an epistemic advantage.

[13] One might think both are equally bad at gaining philosophical truth. Unlike many other intuitive beliefs, with philosophical intuitions we cannot check the facts to see if they are reliable. We have no belief-independent access to the philosophical world.

News headlines, some psychologists and many philosophers valorize inferential thinking over intuitive thinking. But human beings cannot avoid reliance on intuition. The situation is all the more pressing in matters philosophical. Scratch an inferentialist and you will find an intuitionist. That is, look carefully at a philosopher's proffered argument, and you will find an essential, intuitively accepted premise. Even for the most ardent evidentialist, argumentative reasoning starts with intuitions.[14]

If one is doing the best one can with respect to gaining the truth, one's belief or disbelief in God is rational. Religious belief may be more nonreflective, but religious believers are not evidence insensitive. And atheists may be more inferential, but arguments assume intuitions. Neither has an epistemic advantage.

BIBLIOGRAPHY

Alexander, J., and Weinberg, J. M. 2007. Analytic Epistemology and Experimental Philosophy. *Philosophy Compass* 2.

Atran, S. 2002. *In Gods we trust*. New York: Oxford University Press.

Barrett, J. 2004. *Why would anyone believe in God?* Walnut Creek, CA: AltaMira.

Boyer, P. 2001. *Religion explained: The evolutionary origins of religious thought*. New York: Basic Books.

Brooks, David. 2013. Beware stubby glasses. *New York Times.* <http://www.nytimes.com/2013/01/11/opinion/brooks-beware-stubby-glasses.html >

Cappelan, H. 2012. *Philosophy without intuitions*. Oxford: Oxford University Press.

Frederick, S. 2005. Cognitive reflection and decision making. *Journal of Economic Perspectives* 19: 25–42.

Gervais, W. M. and A. Norenzayan. 2012. Analytic thinking promotes religious disbelief. *Science* 336: 493–496.

James, W. 1956. The sentiment of rationality. In *The will to believe and other essays in popular philosophy*. New York: Dover.James, W. 1956b. *The will to believe and other essays in popular philosophy*. New York: Dover Publications.

[14] It is hard to imagine a plausible evolutionary story in which developing reliable philosophical intuitions is reproductively successful.

—. 1981. *Pragmatism*. Indianapolis, IN: Hackett Publishing Company.

Kahneman, D. 2011. *Thinking fast and slow*. New York: Farrar, Straus and Giroux.

Kang, J. and Lane, K. 2010. Seeing rough Colorblindness: Implicit Bias and the Law. UCLA Law Review, 58(2), 465-520.

Kornblith, Hilary. 2012. *On Reflection.* Oxford University Press.

Machery, E., R. Mallon, S. Nichols, and S. Stich. 2004. Semantics, cross-cultural style. *Cognition* 92(3): B1–B12.

McCauley, R. N. 2011. *Why religion is natural and science is not*. Oxford: Oxford University Press.

McGinn, C. 1993. *The problems of philosophy: The limits of inquiry*. Hoboken, NJ: Wiley-Blackwell.

Nichols, S. and J. Knobe. 2007. Moral responsibility and determinism: The cognitive science of folk intuitions. *Nous*.

Nichols, S., Stich S., and J. Weinberg. 2003. Metaskepticism: Meditations in ethno-epistemology. In L. Stephen, ed., *The skeptics*, 227–247. Ashgate Publishing.

Norenzayan, A. and W. Gervais. January 2013. The origins of religious disbelief. *Trends in Cognitive Sciences* 17(1): 20–25.

—, W. Gervais, and K. Trzesniewski. 2012. Mentalizing deficits constrain belief in a personal God. *PLoS ONE* 7(5): e36880.

Pennycook, G., J. A. Cheyne, P. Seli, D. J. Koehler, Fugelsang, J. A., 2012. Analytic cognitive style predicts religious and paranormal belief. *Cognition* 123 (3), 335–346.

Shenhav, A., D. G. Rand, and J. D. Greene. 2011. Divine intuition: Cognitive style influences belief in god. *Journal of Experimental Psychology: General*. doi: 10.1037/a0025391.

Swain, S., J. Alexander, and J. Weinberg. 2008. The instability of philosophical intuitions: Running hot and cold on truetemp. *Philosophy and Phenomenological Research* 76(1): 138–155.

Weinberg, J., S. Nichols, and S. Stich. 2001. Normativity and epistemic intuitions. *Philosophical Topics* 29: 429–460.