9 Intuition, philosophical theorizing, and the threat of skepticism

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The following is a familiar argument type that has dominated recent literature on intuition. Premise: work in experimental philosophy indicates that intuitions vary as a function of such philosophically irrelevant features as order of presentation and cultural background. Conclusion: intuitions are unsuited for their current evidential role in philosophical argumentation. We might call this the 'variation argument' against intuition. Early incarnations of the variation argument (e.g., Weinberg *et al.* 2001; Machery *et al.* 2004) were interpreted by many as suggesting that intuition should be wholly jettisoned as an evidential source, leading to a conception of experimental philosophers as endorsing a sort of 'intuition skepticism'. At the same time, the general tendency among defenders of traditional methodology has been to equate *criticism of intuition* with a complete *rejection of intuition*, and to direct their focus primarily towards undermining the latter.

This 'skepticizing' tendency in the intuition literature has not gone wholly unquestioned. Notably, Jonathan Weinberg (2007) argues that most critics do not (or at least should not) aim to reject intuition as a whole, but merely to criticize *philosophers' usage* of intuitions. More specifically, Weinberg claims that philosophers have not formulated adequate methods for detecting and correcting the errors that intuition sometimes generates—and it is this failure of methodology that should be the focus of anti-intuitionist criticism. Though this explication of the basic experimentalist critique of intuition does avoid some of the problems raised by defenders of intuition, I argue that it fails to answer Williamson's (2007) argument that criticisms of intuition threaten to overgeneralize into skepticism about our ordinary capacity to apply concepts.

I propose an alternative version of the 'deskepticized' experimentalist critique of intuition, one which I believe escapes the Williamsonian overgeneralization worry. This alternative version centers on the claim that the inherent epistemological demands involved in building a philosophical theory are quite plausibly *much higher* than the sorts of epistemological requirements that must be met during much of our 'everyday' epistemic activity. As will be seen, this is not intended as a contextualist claim, but as a claim about the structure of philosophical theorizing; rather than arguing that the standard for knowledge or justification is raised in philosophical contexts, I'll claim that philosophical theory-building is disproportionately affected by otherwise tolerable levels of unreliability. In other

words, while intuitions are plausibly reasonably reliable, philosophical theories based on them are still quite likely to be wrong.

1 The trouble with skepticism

What I've just called the 'variation argument' against intuition rests on a set of empirical findings uncovered by experimental investigations of intuitive judgment. The most well-known example (Weinberg *et al.* 2001) is the finding that Western and East Asian subjects give different judgments on Gettier thought experiments—while Western subjects tend to give the standard philosophical response that Gettier cases do *not* count as knowledge, subjects with East Asian cultural backgrounds tend to give the opposite response. This suggests that cultural background influences responses to thought experiments. Such a finding would seem to call into question the objectivity and accuracy of intuitive judgments. Other studies have indicated that intuitions are sensitive to order of presentation (Swain *et al.* 2008), current emotional state (Wheatley and Haidt 2005; Schnall *et al.* 2008), socio-economic status (Haidt *et al.* 1993; Nichols *et al.* 2003), and more.[1]

The variation argument alleges that these findings show intuitions to vary as a function of factors which are irrelevant to the hypotheses under examination. Cultural background of the attributor, for instance, should be irrelevant to the question of whether or not an agent in a Gettier scenario has knowledge;[2] *mutatis mutandis* for, e.g., order of presentation.[3] Given that these factors do not affect the truth of knowledge ascriptions, at least some of the observed judgments must be false. Intuition, then, is held to be subject to problematic unreliability.

The most straightforward interpretation of such variation arguments takes their ultimate conclusion to be a wholesale rejection of intuition as a valid evidential source. Indeed, this interpretation might even be suggested by some of the more dramatic passages found in endorsements of this argument type. For instance, Swain *et al.* write that "sensitivity to irrelevant factors undermines intuitions' status as evidence" (Swain *et al.* 2008, 141). However, a close reading of the most well-known variation studies uncovers surprisingly little by way of explicit across-the-board

1 It is worth noting several of these findings have been subject to a fair amount of controversy in the literature. At least in some cases, variant prompts have led to failures to replicate the original results; see for instance Cullen 2010 and Nagel 2012. It is thus at least possible that many of the variation findings are due to pragmatic factors, quirks of wording, or other issues arising from experimental design—though I think it is unlikely that all variation findings will be found to exhibit such failures. Ultimately, however, the status of the empirical findings is in fact somewhat tangential to the issues being discussed in this chapter. The primary aim of this paper is to demonstrate how a criticism of intuition as an evidential source can legitimately target philosophical uses of intuition without generalizing to more mundane uses. Though the variation argument is being used as an example, other similar anti-intuition arguments could potentially employ the same argumentative strategy that I will outline here.

2 Unless of course one embraces some form of relativism about matters epistemic. This has not, however, been a particularly popular strategy.

3 See Swain *et al.* 2008 for discussion of whether a contextualist position can dissolve such worries.

condemnation of intuition; instead, conclusions tend to be more along the lines of claims that certain *philosophical* projects are undermined by the variation findings (see also Horowitz 2015 [this volume, Chapter 11] and Weinberg 2015 [this volume, Chapter 7]).

Nonetheless, the skeptical interpretation seems to be the default one. Joshua Alexander and Jonathan Weinberg appear to endorse it by claiming that "for proponents of the restrictionist view, 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). S. Matthew Liao suggests that it would be a "large concession" for the experimentalist to accept that some intuitions can be evidence (Liao 2008, 254). And Alvin Goldman (2007) and David Sosa (2006) fairly explicitly characterize Weinberg *et al.* (2001) as arguing for 'skepticism about intuitions'.

Of course, the 'skepticism' label need not be inherently problematic. What immediately comes to mind for many upon hearing the term 'skepticism' is more or less the position suggested by Descartes' first meditation: a position sometimes called 'global skepticism'. It is generally agreed that such global worries can be set aside during ordinary inquiry; it's also often held that positions which imply global skepticism are thereby substantially weakened. But other 'skeptical' positions are merely local rather than global, targeting only a particular domain or evidential source—for instance, skepticism about astrology. Unlike global skepticism, such positions may not be dismissed out of hand. If variation arguments are to be interpreted as skeptical in any sense, it's obvious that their skepticism is merely of a local type; argumentation is therefore needed to show that intuition skepticism is especially objectionable.

One common move in this vein involves what I will call the 'self-defeat' argument. The gist of this argument is that it is impossible to reject intuition in its entirety, because any argument that might support a rejection of intuition would rest on premises that must themselves be supported by intuition. Joel Pust (2000) and George Bealer (1992) have offered what I take to be the prototypical examples of this strategy; a similar argument is also given by Laurence Bonjour (1998).[4] Pust's argument, for instance, claims that rejections of intuition must invoke some form of epistemological criterion which intuition purportedly fails to meet. But, Pust claims, the adequacy of such epistemological criteria can only be defended via intuition. Unlike other forms of local skepticism, then, the self-defeat argument alleges that skepticism about *intuition* is singularly untenable.

A second type of argument, which I will call the 'parity' argument, attempts to analogize criticisms of intuition and criticisms of perception. Specifically, the claim is that the standards used to evaluate perception as an evidential source should be comparable to those used to evaluate intuition—and that anti-intuition arguments violate this principle of parity. Ernest Sosa, for instance, notes that "it

4 Bonjour's argument, briefly, is that intuition (or rational insight) is indispensable—it is involved in every form of reasoning, including the most elementary inferences. In other words, it is impossible to reason at all without employing intuition.

is argued that in known circumstances intuition systematically leads us astray … [yet] we do not dismiss vision altogether simply because it is subject to systematic illusions. By parity of reasoning, therefore, it would be an overreaction to dismiss intuition" (E. Sosa 1998, 265). Were we to employ the anti-intuitionist's epistemic standards against perception as well, we would be driven to reject perception as a source of evidence. Since perception is a paradigmatically trustworthy epistemological source, its rejection is not on the table—the epistemic standards employed by the intuition skeptic are thus shown to be inappropriately high.

A third critique of intuition skepticism is the 'overgeneralization' argument advocated by Timothy Williamson, most extensively in his 2007 book *The Philosophy of Philosophy*. Williamson notes that 'intuitive' judgments do not appear to enjoy any particular distinguishing feature—unlike processes like perception and memory, intuition does not form a distinct mental kind. Intuitive judgments instead tend to employ the same general-purpose cognitive capacities as other, everyday judgments. Responding to the Gettier case doesn't involve any peculiarly philosophical ability—it involves "the same capacity to classify empirically encountered cases with respect to knowledge as we use when, for example, we classify a politician as not knowing the truth of his claims about terrorists" (Williamson 2004, 112). There is no principled distinction between 'philosophical intuitions' and cases of everyday concept application; therefore, an argument against intuition must impugn concept application generally. A generalized skepticism about concept application would clearly threaten a very deep sort of intellectual paralysis; for, plausibly, every judgment involves some use of concept application. Hence, the anti-intuitionist is in fact not merely an intuition skeptic, but a 'judgment skeptic'—and judgment skepticism is so radical a position that it need not be taken seriously during philosophical debate.

2 Hopelessness and overgeneralization

Collectively, the three 'anti-skeptical' arguments discussed above make a strong case that the variation argument, when interpreted as an argument for intuition skepticism, is subject to fatal objections. A wholesale rejection of intuition as an evidential source is plausibly self-undermining; it plausibly requires invoking unreasonably high epistemic standards; and it plausibly threatens to generalize into a complete rejection of concept application. At the same time, however, the empirical findings underlying variation arguments are genuinely troubling, and they certainly seem to have serious implications for the use of intuition in philosophy. This suggests that a reinterpretation of the variation argument is in order.

Jonathan Weinberg (2007) has offered one such reinterpretation. He argues that critics of intuition (including those who offer variation arguments) are not in fact attempting to promote any sort of skepticism about intuition itself. Intuition is surely subject to some amount of unreliability; Weinberg notes that many of the more esoteric scenarios, in particular, are likely to generate errors. However, as the parity argument shows, the imperfect reliability of intuition is obviously no reason to reject it entirely. Instead, Weinberg claims that critics of intuition

should be interpreted as targeting some epistemically problematic feature particular to *philosophers' appeals* to intuitions. Weinberg suggests that the relevant feature is not mere fallibility, but *unmitigated* fallibility or 'hopelessness'—that is, our inability to detect and correct whatever errors intuition does produce. Philosophers are too accepting of intuitions—we allow intuitions on even the most far-fetched of thought experiments to stand without further questioning. As such, we have no developed procedures for 'weeding out' erroneous intuitions. As Weinberg claims this to be a feature of our epistemic *practices* with regard to intuition, as opposed to an intrinsic feature of intuition itself, a challenge can be made to these practices without requiring a wholesale rejection of intuition as an evidential source.

There is surely something right about this. Arguably, standard philosophical methodology lacks the sort of careful, rigorous checks on intuition-based data to which science, for example, subjects observational data. For example, there is no obvious equivalent to the blinding procedures required in normal experimental contexts; though a philosopher may occasionally express concern that her own theoretical attachments could bias her intuitions, it's rare for a philosopher to actually attempt to control for such potential bias by presenting her cases to naïve subjects. Nor are there explicitly invoked procedures employed to control for the sorts of potential interfering factors (order, emotional state, etc.) that variation arguments have highlighted. Even our ordinary uses of perception can potentially involve substantial error-detecting practices which are not paralleled in our usage of intuition; Weinberg notes as an example our tendency to discount visual perceptions in dim lighting.

So Weinberg has an answer to the basic complaint of the parity argument. Intuition and perception are both indeed fallible; but intuition, unlike perception, is not generally subjected to appropriate procedures to mitigate potential error. Anti-intuition arguments do not generalize to perception, because there is a disparity in the quality of the epistemic *practices* surrounding their use—philosophers' use of intuition is (at least currently) 'hopeless', while standard practices surrounding perception are not. Weinberg also claims that his reinterpretation avoids the worry of the self-defeat argument; since hopelessness is a feature of philosophical practice rather than a feature of intuition itself, anti-intuition arguments which invoke intuitions as premises are at least not inevitably self-undermining. In his own case, Weinberg suggests that his arguments rest only on intuitions that are well-entrenched in non-hopeless practices such as those of the sciences—e.g., the mundane intuition that epistemic norms should aim at producing true beliefs.

At first glance, the distinction between intuition itself and philosophical usage of intuition seems to have the potential to stave off the Williamsonian worry, that is, the worry that a critique of intuition will generalize to the 'intuitive' cognitive processes used in everyday cognition and concept application. Weinberg has argued that his critique specifically targets philosophical practices; other uses of intuition are not affected. In fact, Weinberg explicitly states that the reinterpreted criticism of intuition isn't meant to apply to "the ordinary application of concepts to particulars" (Weinberg 2007, 320). However, Weinberg's reinterpretation will work only if the hopelessness Weinberg appeals to is unique to our *philosophical*

practices with regard to intuition, and does not extend to our 'everyday' practices as well—and it is not clear that this is so.

It is certainly not obvious that our use of intuition in everyday cognitive activity involves any kind of error detection policies that philosophers have simply failed to avail themselves of; if anything, everyday practices are presumably rather less stringent than philosophers'. Thus, there's a prima facie worry that Weinberg's indictment of philosophical practices applies just as well to, e.g., practices surrounding basic uses of concept application—and that the Williamsonian worry will therefore re-emerge. Weinberg seems to be aware of this problem, and contends that "ordinary categorizations usually possess a great deal of external corroboration and internal coherence" (Weinberg 2007, 335)—both features which increase epistemic hopefulness.

However, I would argue that these must be construed as features of ordinary categorization intuitions *themselves*, rather than anything particular to the *practices* surrounding them. Presumably, the claim is not that I am more likely to check with my fellows about my ordinary categorizations, or that I am more likely to actively strive towards a coherent system of those categorizations, than I am with philosophical categorizations; indeed the opposite is probably true. So the exception Weinberg wants to grant to 'ordinary' categorization judgments can't obviously be justified by appeal to the nature of the epistemic *policies* I employ. Instead, the claim of increased corroboration and coherence must involve something in the nature of the intuitions themselves—and very little suggests itself other than the mere fact that their subject matter is 'ordinary'.[5] Perhaps we simply tend to be less frequently in error on ordinary cases, and as such we are less likely to run into external or internal contradictions involving such judgments.

But if this is the claim, the Williamsonian would surely object that it is not clear that one *can* carve off, in a non-ad hoc and non-question-begging manner, the admissible ordinary categorizations from the philosophical. Where is the line, for instance, between 'ordinary' knowledge ascriptions and the philosophical intuitions about knowledge which we must take to be suspect? Gettier cases, as Williamson has noted, are quite ordinary—they involve no far-fetched, science fiction elements, and real-world cases can easily be generated if desired. Williamson's original argument, then, still stands: until a principled line can be drawn between the philosophical and the everyday uses of intuition, the threat of skepticism still looms.[6]

Despite this issue, there is still much to be said for Weinberg's basic approach. Weinberg correctly notes that the focus on reliability that has dominated the intuition literature is too direct—merely pointing to the fallibility of intuition is not enough to impugn it. In fact, *contra* the skeptic, it seems reasonable to assert

5 Fischer *et al.* 2015 [this volume, Chapter 12] experimentally explore an intriguing alternative possibility that is relevant for at least some instances of intuition-driven philosophizing: they examine comprehension-related inference processes that generate intuitions about verbally described cases, and argue these processes are reliable when *the language used* is 'ordinary'—but can generate cognitive illusions when operating on technical philosophical uses of familiar words.

6 Ichikawa (2012) makes a similar complaint, arguing that Weinberg fails to isolate the boundaries of 'philosophical appeals to intuition'.

that intuition is generally reliable in most situations where it is applied, and is therefore a valid source of evidence.[7] As Weinberg notes, maintaining these claims while still holding to the original aim of the variation argument requires identifying some special, epistemologically problematic feature of the philosophical use of intuition. However, hopelessness alone does not seem to fit the bill, since it's unclear that only *philosophical* appeals to intuition are hopeless.

3 Epistemic demandingness

I've suggested that ordinary concept-application practices are likely just as hopeless, if not more so, than philosophical practices—for no obvious hopeful elements of everyday practice are being neglected in philosophical practice. We might attempt to argue that ordinary classifications are generally less likely to be in error than philosophical classifications, due to inherent hopefulness-granting features of their 'ordinary' subject matter; but we're then left with the problem of delineating the ordinary from the philosophical. I think this is the wrong way to resolve the issue—in fact, it's not clear that our philosophical intuitive judgments are in much worse shape than ordinary instances of concept application. They are, I suspect, by and large accurate. To drive this point home, it is worth considering just how *little* unreliability we really need to hypothesize on account of the variation findings—and how troubling they nonetheless remain.

Let's return to the findings of Weinberg *et al.* (2001). It is possible to interpret these findings as showing that Western and East Asian subjects are simply referring to different phenomena; while Western subjects use the word 'knowledge' to refer to one phenomenon, knowledge$_1$, East Asian subjects use the word to refer to a different phenomenon, knowledge$_2$. Thus, when they respond differently to the Gettier case, the two groups are not endorsing contradictory propositions (see, e.g., D. Sosa 2009). Of course, in such a case, it might very well be that there *are* in fact things that fall under the category knowledge$_1$, and that there are also things that fall under knowledge$_2$. Both Western and East Asian subjects might then have generally true beliefs about their respective phenomena—indeed, they

7 I have elsewhere (Nado 2014) argued against viewing intuition as a single mental kind for purposes of evaluating its reliability. Specifically, I have suggested that the term is overbroad and in fact encompasses several very distinct, plausibly more or less domain-specific cognitive processes such as moral cognition, logical cognition, etc. This is in essence the opposite of Williamson's claim that the boundaries of what philosophers term 'intuition' bleed into everyday cases of concept application; rather than taking the philosopher's understanding of 'intuition' to be too narrow (as Williamson does), I take it to be too broad and coarse-grained. In fact, I'm inclined to think that both points are correct—the motley group of mental states that philosophers want to call 'philosophical intuition' both inappropriately lumps together fairly heterogeneous psychological occurrences, and inappropriately excludes states deemed non-philosophical. However, for simplifying purposes, I have opted in this paper to treat intuition as a single mental kind—one which plausibly encompasses, as Williamson suggests, many non-philosophical judgments. In practice, however, the arguments I give in the remainder of the chapter seem to me to apply equally well if we view intuition as consisting of several different types of more or less domain-specific mental capacities—one could, for instance, use them to defend a criticism solely targeting epistemological intuitions or moral intuitions.

might even be perfectly reliable in their ability to classify cases as instances of those phenomena. This interpretation does not require us to attribute any degree of unreliability to intuition whatsoever.

But it's worth noting that such a scenario could still be quite problematic from the standpoint of philosophical methodology. Even if we were to become convinced that both groups had characterized their respective phenomena with perfect accuracy, we would still face the problem of determining which of these phenomena has more normative force—should we pursue knowledge$_1$ or knowledge$_2$? This is not a new observation—Stephen Stich (1988), for instance, voices the exact same concerns. Merely determining that the term 'knowledge' is used to refer to a certain set of states does not seem to demonstrate the epistemological worth of those states. And compare G. E. Moore, in the *Principia Ethica*, lampooning the philosopher who takes ethics to be a matter of determining the extension of 'good'—"Do, pray, act so, because the word 'good' is generally used to denote actions of this nature: such, on this view, would be the substance of their teaching" (Moore 1903, 12).

It has been less commonly noted, however, that similar gaps remain for non-normative concerns. We might wonder, for example, which of the two 'knowledge' phenomena in the above scenario plays some given important theoretical role, such as being the most general factive mental state. Equally, were we to discover cultural variation in conceptions of belief, merely resting content that our two cultural groups had successfully latched on to belief$_1$ and belief$_2$ would do us little good. We would still be faced with the question of determining which phenomenon plays the various roles recognized by our best psychological theories. Variation in philosophical concepts would suggest that such questions cannot be answered *merely* by an ability to reliably sort cases.[8]

A second, more common interpretation of the Weinberg *et al.* findings is that one of the two groups simply has false intuitions about Gettier cases. But given the rarity of Gettier cases, this hardly amounts to a substantive degree of unreliability. Even if we find it likely that the Gettier disagreement will not be an isolated case, the data by no means suggest that one or the other group is unreliable to any very significant degree. On either interpretation, then, the empirical data are compatible with a quite high degree of reliability on philosophical cases. So why should the data still seem so deeply troubling?

Weinberg has suggested that we have an inability to identify and eliminate error—but if errors are reasonably rare, why should this have any devastating

8 Some philosophers—notably Goldman (2007) and Knobe (2007)—have explicitly characterized the goal of philosophy as the analysis/characterization of concepts in the 'personal psychological' sense (to use Goldman's terminology). On such a perspective, the existence of different concepts across cultures would not immediately appear problematic to philosophical investigation. Yet such a position seems susceptible to exactly the worry just outlined—the characterization of a particular group's personal psychological concepts gives us arguably no guidance on the normative and theoretical questions discussed above. I would suspect that most philosophers take these to be central philosophical questions, and that the Goldman/Knobe approach is therefore not likely to be a satisfying response to variation arguments.

implications for traditional philosophical methodology? It seems reasonable to accept the deliverances of a highly accurate evidential source even when one's ability to detect and correct the occasional error is severely limited. Or at least, this seems reasonable for most everyday contexts; perfect accuracy or the potential to achieve it is surely worthwhile, but its absence doesn't prevent us from attaining knowledge. It seems possible to be justified in holding a particular belief even given (say) an irremediable 1-per-cent chance of undetectable error.

I'd like to suggest that the distinction between philosophical uses of intuition and ordinary cases of concept application does not lie in differing levels of hopefulness, but instead differing levels of what I'll call *epistemic demandingness*. Briefly, the idea is that the same level of reliability (and hopefulness) can be sufficient for one task without being sufficient for another. Detecting whether one's oven is working is not as demanding as determining whether one has a fever; a thermometer that is usually off by 5–10 degrees will be reliable enough for the former task, but not the latter. Theory-building generally, and philosophical theory-building in particular, tends to be demanding. An evidential source can be reliable enough for everyday belief formation while leading to serious error when applied to the task of generating a theory.

There is a particular real-life example which demonstrates the possibility of this sort of situation quite nicely; it is mentioned by Williamson himself in his discussion of the skeptical problem. It concerns the human ability to more or less accurately predict the motion of objects—an ability commonly placed under the heading of 'folk physics'.[9]

> Folk physics … is a theory whose content includes the general principles by which expectations of motion, constancy, and the like are formed online in real time … presumably it is strictly speaking false: although many of its predictions are useful approximations, they are inaccurate in some circumstances; knowledge of the true laws of motion is not already wired into our brains, otherwise physics could be reduced to psychology. Since folk physics is false, it is not known. But the conclusion that no belief formed on the basis of folk physics constitutes knowledge is wildly sceptical.
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> (Williamson 2007, 146)

Folk physics, as Williamson characterizes it, is a tacit theory which generates judgments regarding the likely future behavior of physical objects.[10] The

9 The term 'folk physics' is sometimes used specifically to refer to naïve adult understanding of problems in classical mechanics; however, in other cases it (or the related term 'naïve physics') is often used to refer more broadly to any naïve beliefs about physical phenomena, including, e.g., the existence of natural kinds, or expectations of object permanence. In this chapter the former, restricted sense is being employed; however this is primarily for convenience and does not reflect any particular theoretical commitment about the cognitive structures underlying predictions of motion.

10 One could of course have alternative views about the specifics of the psychology behind folk physical judgments—in particular, whether they constitute a tacit theory. But this is unimportant for current purposes; the crucial point is that folk physical predictions about motion are by-and-large accurate, but cannot be used as the basis for an accurate scientific theory of motion.

predictions resulting from this tacit theory tend to be, in most cases, true. They are surely reliable enough to continue to employ them in our everyday cognition. Further, many beliefs formed on the basis of folk physics constitute knowledge. However, as Willliamson also mentions, folk physics—the tacit theory itself—is plausibly false, and plausibly not known.

More important for our purposes is a claim that Williamson does not make, but which is obviously correct: one would not be justified in using the deliverances of folk physics as the basis for one's physical theory. On one prominent view of folk physics, the principles by which folk physics operates in fact most closely resemble medieval impetus theory, according to which motion is dependent upon an impetus implanted in a moving object by the cause of the motion.[11] Impetus theory, of course, is false, and has been rejected by physicists since the rise of Newtonian mechanics. If folk theory really does resemble impetus theory, then folk physics cannot serve as a good guide in theory-building—despite the fact that most of our folk-physics-based beliefs are true. A physicist relying on the deliverances of folk physics as her primary source of evidence would be likely to produce a radically false theory (though one that might be tolerably accurate on case-by-case predictions). In other words, the task of building a physical theory is highly epistemically demanding.

The case of folk physics admittedly relies on certain empirical claims about the structure of folk theory, but the general phenomenon can be brought into focus by considering a simplified, abstract example. Consider a group of 10 objects, *a*, *b*, *c* … *j*, and two properties, *F* and *G*. Now consider a subject who possesses a 'folk theory' devoted solely to those objects and their properties, on the basis of which the subject makes judgments regarding the applicability of *F* and *G* to the objects in the group. Suppose that, by means of this folk theory, our subject produces the judgments *Fa*, *Fb*, *Fc* … *Fj*, and the judgments *Ga*, *Gb*, *Gc* … *Gj*. Finally, suppose that in actuality, ~*Fa* and ~*Gb*—all other judgments are correct. Out of 20 judgments, the subject has made 18 correctly—she is, then, a reasonably reliable judger of *F*-hood and of *G*-hood on the cases to which her folk theory applies. We would likely say that it is epistemically permissible for the subject to rely on such judgments in normal contexts.[12]

Suppose, however, that our subject is a philosopher; further, suppose her to be concerned with the nature of *F*-hood and of *G*-hood. Our subject might then come to hold certain theoretical claims about the nature of *F*-hood and *G*-hood on the basis of those initial classificatory judgments. She might, for instance, infer that everything (in the toy universe of 10 objects) is *F*, that everything is *G*, and that if something is *F* then it is *G*. She would be wrong on all counts. The example is simple, but it shows that a certain principle—that the general reliability of one's classificatory judgments directly entails the general success of one's

11 McCloskey 1983 is a classic presentation of this view of folk physics; for a more recent survey of relevant literature see Kozhevnikov and Hegarty 2001.

12 If you disagree, the degree of reliability can be arbitrarily raised without harm to the structure of the case.

theory-building—is clearly false.[13] Generating an accurate theory is highly epistemically demanding; an otherwise respectable source of evidence may not suffice.

There is a direct analogue in the case of the analysis of knowledge. Suppose Western and East Asian subjects are referring to the same phenomenon when they use the word 'knowledge'—they are both referring to knowledge. Suppose (probably contrary to fact) that the Gettier case is the *only* type of case on which the two groups disagree. Finally, suppose the East Asian subjects are right; the Gettier cases are in fact cases of knowledge. The percentage of epistemological scenarios that involve Gettier cases is obviously fairly low, so it is clear that there is no problem in taking both groups to be highly successful categorizers of knowledge and non-knowledge. But the theories produced by philosophers in each group, if based primarily on that group's epistemic intuitions, will be highly likely to differ in philosophically significant ways. The Western philosophers will likely devote decades of literature to an attempt to formulate new principles which rule out Gettier cases as knowledge; the East Asian philosophers will stick with the classical JTB model. And despite their general reliability as classifiers, the Western philosophers' theories will simply be false.

As in the folk physics case, it's plausible to conclude that both groups are able to make knowledge classifications that are just fine for ordinary purposes—we may suppose that such classifications typically result in true beliefs and even knowledge. But it is not unreasonable to be wary of resting arguments on these categorizations when engaged in the highly demanding business of theory-building; indeed, we should grant a fairly high credence to the possibility that the theory that 'best fits' intuition may nonetheless be deeply flawed.

In a strict sense, the sort of worry I am outlining arises for every fallible source of evidence. If one generates a theory that attempts to fit a certain not-perfectly-accurate set of data points, there is always some risk that the theory will be false even if the majority of data points are accurate. But it is certainly not the case that any error whatsoever will *inevitably* result in a false theory. We might ask, then, under what circumstances we are obligated to seriously consider the possibility of radical error in our theorizing; why is this a problem for the construction of philosophical theories on the basis of data gleaned from intuition, but not for (say) the construction of scientific theories on the basis of data gathered via observation?

To begin, we might return to Weinberg's feature of 'hopelessness'. If the errors a given fallible source produces are at least potentially capable of being identified

13 The case described bears a resemblance to certain epistemic paradoxes, in particular the familiar 'paradox of the preface'. However, the literature surrounding such paradoxes is more or less orthogonal to the problem being discussed. What is important here is simply the fact that theoretical-level propositions that 'best fit' the deliverances of an imperfectly reliable source plausibly run a significant risk of falsehood, one that greatly exceeds the risk of falsehood of any of the individual, particular-level data points from which the theory was generated. This hypothesized significant risk of falsehood is in and of itself a challenge to reliance on intuition in theory-building. No solution to the preface paradox will show us that we were simply wrong to think that manuscripts tend to contain errors—*mutatis mutandis* for the cases given here.

and corrected, we can in principle succeed in producing an accurate theory from less than perfectly accurate data points. This might occur if the errors are not systematic, if they are 'outliers' disrupting an otherwise clear pattern, if we have other sources with which to check the data, and so on. In this sense, Weinberg's concerns about intuition's apparently unmitigated fallibility turn out to be exactly appropriate. Undetectable, irremediable error in intuition *is* problematic for intuition-based philosophical methodology: it dramatically increases the risk that theoretical systematizations based on intuition will fail. This concern is *not* generalizable by the Williamsonian move; everyday uses of intuition are not theoretical systematizations, so they will not be affected by this particular difficulty.

There are also distinctions we might make between different sorts of broadly theoretical tasks. Not all such tasks will be equally demanding, and not all patterns of error that a source might display will be problematic for any given theoretical task. To give an extreme case, a tendency to err in estimations of height by a factor of 1 inch would not in any way impact the theoretical generalization that humans never exhibit heights of greater than 10 feet. Or, to appeal to the example of judgments of *F*-hood and *G*-hood earlier, the particular pattern of errors the subject displayed would not impact the claim that more than 50 per cent of all things are *F*. On these cases, the error 'washes out' during the process of generalization over particular-case data points. Even where a pattern of errors does affect accuracy at the theoretical level, there are some cases where that error will be diminished. A thermometer that is off by 1 degree on temperatures below freezing might have some impact on theories involving average temperatures in, say, Brazil—but not much.

In other cases, however, a source's deliverances may display error patterns which do pose significant problems for certain theories built out of them, in that those errors will be fully reflected or even magnified at the theoretical level, rather than quietly fading away as accurate data points accumulate. Some patterns of error, even when they make up a minor proportion of the total data, lead to wildly inaccurate theories when those data are systematized. The errors of folk physics provide one example of this type. Error on the Gettier case arguably provides another. In fact, many of the judgments philosophers focus on seem to be potentially of this sort. After all, philosophers make heavy weight of counterexamples: single cases which may potentially decide between two radically different theories. According evidential status to a single false judgment on a crucial counterexample may well lead to a profoundly mistaken theory.

Given Weinberg's observations about the apparent hopelessness of intuition, the potential for errors on counterexample cases (or other cases where erroneous judgments would have significant impact on the character of the resulting theory) ought to be deeply worrisome for advocates of intuition. If we have good reason to suspect intuition to be fairly error-prone on crucial cases, then we have good reason to suspect that the fallibility of intuition will be greatly amplified in the course of our philosophical theory-building. Many of the theories which best fit intuition may well be utterly off-track.

Is intuition in fact likely to be susceptible to error on such cases? The data that variation arguments rely on provide at least some indication that it is. Further, however, the possibility of problematic error would seem to be quite salient given that intuition is likely 'folk physics-*y*', in the following sense. Folk physics is accurate over a great range of everyday cases, but fails on certain less common cases. On the assumption that folk physics is largely innate, it is plausible that it involves some sort of mental capacity that humans evolved in response to a need to quickly and accurately determine the trajectory of moving objects in their environment. But like other such evolved adaptations, there is simply little evolutionary pressure for *perfect* accuracy. Accuracy over central cases is enough. As such, a good amount of error on unusual or infrequent cases is wholly unsurprising—indeed, it would be surprising if such errors did *not* occur. Similar considerations apply to philosophical categories like morality, epistemology, and so forth; assuming one is not a philosopher, there's little pressure for accuracy on infrequently encountered cases. If the capacity (or capacities) that generate intuitions on such cases were an innate evolutionary adaptation, then we would expect errors, instability, biases, and disagreement on uncommon cases.

Of course, the cultural variability displayed in epistemological, moral, and other intuitions suggests that whatever processes underlie intuition are *not* fully innately specified—on the contrary, it suggests that our 'folk epistemology', 'folk morality', and so on are at least in part acquired from our local communities. Yet similar concerns to those just outlined apply equally to intuitions that have developed as a result of cultural pressures. There simply seems to be little pressure towards more than approximate accuracy. Accuracy on commonly encountered cases is enough; again, we should expect errors on uncommon cases.

Philosophers have a particularly pressing reason to be concerned here, for it is rather plausible that the judgments philosophers focus on (which, as just discussed, are those on which error would endanger theory-building) are just the sort of cases on which a generally reliable yet 'folk physics-*y*' intuitive capacity would be likely to err. These cases—the Gettier cases, the swamp man cases, the brain-in-a-vat scenarios—are exactly the sort of cases that are rarely encountered at best, and for which there is little practical consequence for inaccuracy. Thus, one might suspect that the cases crucial for deciding between rival philosophical theories are exactly the ones most likely to generate disagreement cross-culturally, and the ones most likely to be affected by 'inappropriate' factors like order of presentation and emotional state. The empirical findings cited by anti-intuitionists support these suspicions.

These observations are not limited to philosophical categories, either—it's plausible that we err in broadly the same ways in our 'ordinary', non-philosophical classifications. General accuracy is likely, but there will be little pressure (evolutionary or cultural) for accuracy or consensus on uncommonly encountered cases. There is, then, no need to delineate the ordinary from the philosophical; the critic of intuition can happily admit that ordinary concept application suffers from the same failings as 'philosophical intuition'. The difficulty arises in the context of the activity of generating a theoretical systematization out of particular-case

judgments. This is simply not an activity that is standardly undertaken with our everyday concepts—no field of inquiry aims at an analysis of the nature of shoes, ships, or sealing wax. Where a non-philosophical field of inquiry does rely on data generated from particular-case categorization intuitions to produce theories of some concept relevant to that field, such theories are open to the same concerns as philosophical theories. This is plausibly as it should be. Other cognitive activities involving concept application will remain unproblematic.

4 Reinterpreting the variation argument

The position I have just outlined must be carefully distinguished from at least two others to which it bears a surface-level resemblance. The first is contextualism about knowledge. Contextualism about knowledge is a claim about the nature of knowledge attributions; in short, the contextualist suggests that an attribution of the form '*S* knows that *x*' might express a certain proposition P_1 in some contexts, and another proposition P_2 in others. One *could* make a contextualist argument on behalf of the anti-intuitionist, perhaps, by suggesting the following: within philosophical contexts, sentences of the form "*S* knows that *x*" express higher epistemological standards than they do in everyday contexts—and intuitions fail to meet these higher standards. However, no such claim is being made here.

Here is a similar position, which must also be distinguished from the current claim: in everyday activity, subjects ought to form beliefs only if those beliefs meet epistemological standard *S*; in philosophical contexts, however, subjects ought only to form beliefs if those beliefs meet some higher standard *S**. This position differs from contextualism, in that it makes no claim about knowledge. In fact, it is consistent with the claim that beliefs meeting standard *S* are always knowledge—the claim would then be that in philosophical contexts, a standard higher than knowledge must be met. My position does not make this claim, either.[14]

In fact, the position I advocate ought to be distinguished from any form of pluralism about epistemic standards (though it need not be incompatible with such positions). The claim is instead as follows: the very nature of philosophical theories makes them less likely to be accurately produced via intuition than individual classificatory judgments. Again, the feature doing the work here is epistemic *demandingness*—that is, how difficult or unlikely it is to achieve truth on a certain epistemic task. The claim is that reaching true philosophical theories via the systematization of particular-level classifications is extremely demanding, in that small amounts of error in the particular-level classifications are highly likely to reverberate at the theoretical level.

14 Though I suspect such a claim might well be correct. It is, for instance, plausible that science demands higher epistemic standards than ordinary knowledge—consider the frequent scenario in which scientists announce that a piece of commonplace knowledge has been experimentally confirmed (to the puzzlement and annoyance of the layman). If this is so, then perhaps philosophy demands higher standards, as well.

When variation arguments have been recast in the way I've been suggesting, the arguments deployed against the 'intuition skeptic' no longer apply. Criticisms of intuition will generalize to ordinary concept-application judgments, but harmlessly so—unless one is attempting a theoretical systematization of those ordinary concepts. With regard to the parity argument, we still plausibly have a distinguishing characteristic in Weinberg's hopelessness. Thus, the complaint against intuition-based philosophical practices need not obviously extend to the observation-based practices of the sciences. And finally, no self-defeat threatens, for an anti-intuitionist argument which invokes an intuition-based premise is perfectly acceptable. Again, the epistemological troubles with intuition arise from systematizations of sets of intuitions into philosophical analyses. For any particular intuition, we need not have any qualms—unless, of course, a separate reason is given to doubt the veracity of the particular intuition in question.

It might be objected that anti-intuition arguments rely not only on individual epistemic intuitions, but also on epistemic concepts. An argument criticizing the epistemic worth of intuition will likely invoke concepts such as 'justification', 'reliability', and so on—since I have suggested that such concepts are quite likely to be flawed in much the way our folk physical concepts are, isn't my reliance on these concepts problematic?[15] It is not—one can surely successfully employ a concept even while acknowledging that the concept stands in need of revision. I need not possess the correct theory of justification before adverting to justification in my arguments; similarly, it is not as though all physical inquiry before Newton becomes illegitimate due to the influence of such flawed theories as impetus theory.

One final issue is worth discussing. I have been employing a simplified model of philosophical methodology, according to which the philosopher builds theories by looking for a 'best fit'—that is, an analysis that entails the truth of the greatest possible number of the 'particular', individual-case intuitions generated by thought experiments, etc. However, this is almost certainly far too crude a characterization of actual philosophical practice. For one thing, such a model neglects the role of more 'general' intuitions, such as the intuition that knowledge requires justification, or that free will is a prerequisite for moral responsibility. But the situation is not much different when such general intuitions are taken into account. The worry still remains that such intuitions, along with particular-case intuitions, form part of a folk-physics-like system which produces adequately little conflict with daily experience, while nonetheless being intrinsically flawed and problematically error-prone at the margins, thus leading to false theories.[16] A more serious complaint is that philosophical method does not in fact primarily

15 This line of thought is inspired by the self-defeat argument given in Bealer 1992.

16 One could also simply restrict the complaint to over-reliance on particular-case intuitions, while claiming that in many cases we do weight such intuitions far too heavily. For example, most philosophers are unwilling to reject the Gettier intuition even in the face of the intuitively plausible general principle that knowledge should be a fairly simple and natural property (Weatherson 2003).

rely on intuitions, be they general or particular. This worry has recently been pressed by several philosophers—Cappelen (2012) and Deutsch (2010) are the most well-known examples. Unfortunately, these arguments deserve much more space than can be given here; a few brief remarks will have to suffice (but see Fischer and Collins 2015 [this volume, Introduction, pp. 000–000]). Particularly in Cappelen's work, some of the motivation for the claim that philosophers do not rely on intuitions comes from a general doubt regarding the very existence of 'intuitions'. When philosophers use terms such as 'intuition' and 'intuitive', Cappelen claims that they are not referring to a certain type of mental state, but are rather flagging that a claim is pre-theoretical, obvious, in the common ground, or something of the like. Though this may well be correct, I'd argue it has little impact on the variation argument. The subjects in the relevant experimental studies have been shown to display problematic variation in their classification judgments. Insofar as the particular classification propositions philosophers use in theorizing are got at in something like the way that naïve subjects do, those propositions will likely contain enough falsehoods to motivate the problem I've been discussing. Whether or not some particular mental state called 'intuition' is involved is a side issue.

However, another aspect of both Cappelen's and Deutsch's views involves the claim that philosophers *give arguments* for many supposedly 'intuited' propositions—such as the claim that the subject in a Gettier thought experiment fails to possess knowledge. If this means that the classification propositions philosophers use in theorizing are *not* got at in the way that naïve subjects get at them, then the variation argument does indeed lose its bite. I am more than happy to admit that this is so—the success of the variation argument, even in a deskepticized form, will depend on how closely philosophers' methods resemble the judgment processes of the subjects experimental philosophers have studied. My personal suspicion is that philosophers on both sides of the intuition debate have, in fact, overestimated the role intuition plays in philosophical inquiry—but that a good deal of brute intuition-mongering does nonetheless occur. Should my suspicions prove correct, variation arguments can show why philosophers ought to strive to remove such methods from their repertoire.

Ultimately, the reimagined anti-intuitionist argument I've presented here is somewhat less ambitious than might be expected. It targets a particular type of philosophical activity—the attempt to construct philosophical theories which fit neatly with naïve intuition. Other philosophical activities, even those based on intuition, are not within its scope. It is not the case, for instance, that thought experiments must be wholly expunged from philosophical debate; after all, thought experiments have sometimes been decisive in scientific debates, and there is no reason to doubt that the same will be true of philosophy. What the argument does attempt to show, however, is that current critiques of intuition-based methodology cannot be cast aside as radical, destructive threats to all inquiry as we know it. In fact, they need not even be viewed as a threat to philosophy as a discipline. On the contrary, they present an invitation to expand and refine our methods—to improve philosophy, rather than undermine it.

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