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Experimental Philosophy*

Abstract: Experimental philosophy is a new approach to philosophy that incorporates the experimental methodologies of psychology, behavioral economics, and sociology. Experimental philosophers generally maintain that, in addition to traditional philosophical practices, these ways of gathering evidence can be instrumental in shedding light on philosophically important issues. Rather than relying on their own intuitions about specific cases, experimental philosophers perform systematic experiments to determine what intuitions people have about those cases. These intuitions are then used as evidence. In this context, four main approaches to experimental philosophy are introduced, a sample of experimental philosophy's results is offered, and some of the philosophical importance of those results is explained.

Experimental philosophy is a new, interdisciplinary approach to traditional philosophical questions. Experimental philosophers use the experimental methods of psychology, sociology, behavioral economics, and cognitive science to help shed light on philosophically important questions. In what follows, four general approaches to experimental philosophy are reviewed. In addition, two prominent objections to experimental philosophy and responses to those objections are presented. The final section details some remaining challenges and opportunities for experimental philosophy.

1. Motivating Experimental Philosophy

Experimental philosophy is an important departure from traditional 20th century analytic philosophical practice. To a large extent, traditional twentieth century analytic philosophy has been conducted from the armchair. Many philosophers think that most of the evidence required for constructing conceptual analyses and philosophical theories is available via prolonged reflection.¹ For example, often philosophers propose an analysis of a concept and then other philosophers

* I would like to thank Edward T. Cokely for very helpful and extensive comments and encouragement on earlier drafts of this paper.

¹ This approach has been called Intuition Driven Romanticism (Weinberg/Nichols/Stich 2001). Intuition Driven Romanticism is the view that correct norms are embedded within 'us'. All philosophers need to do is reflect long and hard enough and those norms would surface.

try to construct counterexamples to that conceptual analysis. Often these counterexamples take the form of hypothetical thought experiments. Intuitions generated by these counterexamples are meant to suggest that the analysis is wrong or in need of refinement. As a result, conceptual analyses are typically thought to be better to the extent they can withstand intuitive counterexamples.²

For instance, take one of Gettier's (1963) counterexamples to the 'Justified True Belief' analysis of knowledge. The 'Justified True Belief' analysis of knowledge holds that the following conditions are individually necessary and jointly sufficient for a subject (*S*) to know a proposition *P*: (a) *P* is true; (b) *S* believes that *P*; and (c) *S* is justified in believing that *P*. Gettier claims that he can construct a case where it is obvious that (a)–(c) are present and yet we do not think *S* knows. Suppose Smith has good evidence for the following proposition: Jones will get the job and Jones has ten coins in his pocket. Smith can then validly infer the following proposition: (d) the man who will get the job has ten coins in his pocket. However, Smith is the man who will get the job, and Smith has ten coins in his pocket, but Smith does not know either of these two facts. It 'seems' that (a)–(c) are satisfied in this example: (d) is true; Smith believes (d); and Smith is justified in believing that (d). It also seems that Smith does not know (d) because there is an unacceptable element of luck involved making (d) true (Gettier 1963). Hence, the Justified True Belief account is a failed analysis of knowledge because in Gettier's example it 'seems' (a)–(c) are satisfied and it 'seems' to us that Smith does not know (d). Roughly, these kinds of intellectual seemings are intuitions.³ One has the intuition that (a)–(c) are met while at the same time one has the intuition that Smith does not know (d). Thus, intuitions are irreplaceable in testing counterexamples to an analysis of a concept.

As Gettier's counterexample to the 'Justified True Belief' account of knowledge illustrates, philosophical theories and conceptual analyses are at least in part tested by intuitions generated by hypothetical thought experiments. Alexander and Weinberg (2007) call this general methodology the *practice* of philosophy. In this practice, philosophers' intuitions play a critical role. But many philosophers do not think they are *merely* using their own idiosyncratic intuitions. Rather, philosophers often act as if their intuitions are widely held. For example, Frank Jackson has claimed that "often we know that our own case is typical and so can generalize from it to others" (Jackson 1998, 37).⁴

² One popular method philosophers use to generate theories and conceptual analyses is reflective equilibrium (Daniels 1979; Goldman 1986). This process counsels that one should develop one's theory or conceptual analysis by a process of mutually adjusting it with deeply and widely held intuitions. A principle or theory is rejected if it licenses an inference that one is not willing to accept. An intuition is rejected if it violates a principle that one is not willing to discard. By such a process of mutual adjustment, it is often maintained that progress can be made.

³ There is no consensus in philosophy about what intuitions are. Some think intuitions are simply beliefs (Lewis 1983), some think they are inclinations to believe (van Inwagen 1997), some think they are immediate seemings (Goldman/Pust 1998), and for others they are seemings with some sort of special aura (Claxton 1998). For a more extensive review, see Feltz/Bishop, in press.

⁴ See Alexander/Weinberg 2007 for a thorough discussion of the different views about who the 'we' refers to.

Experimental philosophers are skeptical of such claims. Experimental philosophers normally hold that philosophers are not very good at knowing from the armchair (a) which intuitions are widely shared, (b) that their intuitions are representative of the folk, and (c) the biases to which their intuitions may be susceptible. Because of these concerns, experimental philosophers are suspicious that the current philosophical practice is the best way to generate philosophical theories or conceptual analyses. In the next section, some basic projects of experimental philosophy that support (a)–(c) are presented.

2. Experimental Philosophy's Many Faces

2.1 The Descriptive Project

Generally, the descriptive project consists of describing and measuring folk intuitions, concepts, and the cognitive processes involved in philosophically relevant intuitions.⁵ Mapping out philosophically relevant intuitions, concepts, and cognitive processes is necessary to substantiate some claims made by philosophers. Philosophers sometimes make reference to 'folk' concepts or 'folk' intuitions to support their arguments. But these sorts of claims are empirical claims—claims about what intuitions people have. Because these are empirical claims, the right kind of evidence to support them is empirical evidence. However, often philosophers speculate from the armchair about what intuitions the folk have. There is a problem with such philosophical speculation about folk intuitions—it is sometimes wrong about what intuitions the folk have! Hence, the best way to determine what intuitions the folk have comes from systematic experiments that elicit the relevant folk intuitions. Absent empirical evidence, philosophical theories and conceptual analyses resting on folk intuitions lack the appropriate evidence.

2.1.1 Evidence From the Descriptive Project

Experimental philosophers have gathered data in areas as diverse as *action theory*,⁶ *ethics*,⁷ *metaphysics*,⁸ *philosophy of science*,⁹ *philosophy of mind*,¹⁰ and *epis-*

⁵ The descriptive, prescriptive, and normative projects in experimental philosophy were first identified by Nichols 2006. The current discussion is an adaptation of those three projects. For other descriptions of the projects in experimental philosophy, see Nadelhoffer/Nahmias 2007; but see also Baron 2008.

⁶ Cokely/Feltz 2009a; Knobe 2003a; 2003b; 2004a; 2006; Knobe/Burra 2006; Machery 2008; McCann 2005; Mele 2003; Nadelhoffer 2004; 2005; 2006a; 2006b; 2006c; Nichols/Ulatowski 2007.

⁷ Feltz/Cokely 2008; Goodwin/Darley 2008; Haidt/Koller/Dias 1993; Nadelhoffer/Feltz 2008; Nichols 2002; 2004b; 2004c; Nichols/Folds-Bennett 2003; Petronovich/O'Neil 1996; Woolfolk/Doris/Darley 2006.

⁸ Livengood/Machery 2007; Roxborough/Cumby 2009.

⁹ Linquist/Griffiths/Machery, in press; Stolz 2009.

¹⁰ Huebner, in press; Knobe/Prinz 2008; Nichols 2004a; Sytsma/Machery 2009.

*temology*¹¹. Because these fields are so diverse, a few examples are offered that illustrate the types of descriptive data experimental philosophers gather.

2.1.2 Intentional Action

One prominent part of action theory attempts to understand intentional action (Mele 1992). An interesting test case for intentional action is side effects. If a consequence of an intended action is foreseen but not intended, then that consequence is a side effect.¹² Two prominent views about intentional action that are sometimes claimed to capture the folk view are the Simple View and the Single Phenomenon View. The Simple View (Adams 1986) states that if one performs an action *A* intentionally, then one intends to *A*. The Single Phenomenon View states that if one intentionally *A*-s, then one intends some action that may not be *A* (Bratman 1984). The Simple View predicts that most people would not consider side effects to be brought about intentionally whereas the Single Phenomenon View allows for some side effects to be brought about intentionally.

Some side effects have been shown to have interesting properties. For example, the moral valence of some side effects has been shown to systematically change people's intentionality judgments about those side effects. The paradigmatic cases that generate this asymmetry are Knobe's (2003a) chairman cases. In one of the chairman cases, the chairman brings about a beneficial side effect. In the other case, the chairman brings about a harmful side effect. The two chairman cases are:

“The vice-president of the company went to the chairman of the board and said, ‘We are thinking of starting a new program. It will help us increase profits, but [and] it will also harm [help] the environment.’ The chairman of the board answered, ‘I don’t care at all about harming [helping] the environment. I just want to make as much profit as I can. Let’s start the new program.’ They started the program. Sure enough, the environment was harmed [helped].” (Knobe 2003a, 191)

Participants were asked if the chairman intentionally harmed/helped the environment. In the harm condition, 82% thought the chairman harmed the environment intentionally. In the help condition, 77% thought that the chairman *did not* help the environment intentionally (Knobe 2003a, 192). These results have been replicated across a wide range of cases (Cushman/Mele 2008; Knobe 2003b; 2004a; 2004b; 2006; Mele/Cushman 2007; Nichols/Ulatowski 2007), ages (Leslie/Knobe/Cohen 2006), and cultures (Knobe/Burra 2006).

These results suggest that the folk typically judge that some morally good side effects are not brought about intentionally but some morally bad side effects are. These were surprising results. For example, some philosophers did not predict

¹¹ Feltz/Zarparentine, in press; May, Sinnott-Armstrong/Hull/Zimmerman, in press; Swain/Alexander/Weinberg 2008; Weinberg/Nichols/Stich 2001.

¹² For a more detailed discussion of side effects, see Feltz 2007 and Nadelhoffer 2007. For a more detailed definition of side effects, see Cushman/Mele 2008.

that the moral valence of a side effect would influence people's intentionality judgments about the side effect (Mele 2001). Similarly, McCann's defense of the Simple View as an analysis of the folk concept also seems to fail (Nadelhoffer 2006c). These general results indicate that armchair speculation alone is not the best way to predict folk intuitions about intentional action. Hence, obtaining a clear and accurate understanding of folk intuitions often requires engaging in empirical work.

2.1.3 Free Will

One of the major controversies in the contemporary free will debate is between those who think that free will and moral responsibility are compatible with the truth of determinism (compatibilists) and those who do not (incompatibilists). The theoretical terrain of this particular debate is very difficult and nuanced. So, philosophers often look for argumentative resources. One argumentative resource philosophers sometimes use is folk intuitions about free will and moral responsibility. These folk intuitions are sometimes used as premises in philosophers' arguments (Alexander/Weinberg 2007). However, sometimes both compatibilists and incompatibilists claim that folk intuitions support their view (see Nahmias/Turner/Nadelhoffer/Morris 2006 for a fuller discussion). But the folk cannot support both compatibilism and incompatibilism because the two views are mutually exclusive.

According to some experimental philosophers, armchair philosophy is not the best way to decide which position best captures the folk view about free will and moral responsibility. Rather, the best way to determine the folk view is to run systematic experiments on the folk. In some of the first studies exploring folk intuitions about determinism's relation to free will and moral responsibility, Nahmias/Morris/Nadelhoffer/Turner (2004; 2005; 2006) found that the folk sometimes respond as if they had compatibilist intuitions. In one experiment, Nahmias, Morris, Nadelhoffer, and Turner gave participants the following description of an agent in a deterministic universe:

“Imagine there is a universe that is re-created over and over again, starting from the exact same initial conditions and with all the same laws of nature. In this universe the same conditions and the same laws of nature produce the exact same outcomes, so that every single time the universe is re-created, everything must happen the exact same way. For instance, in this universe a person named Jill decides to steal a necklace at a particular time, and every time the universe is re-created, Jill decides to steal the necklace at that time.” (Nahmias/Morris/Nadelhoffer/Turner 2006, 38)

Sixty-six percent responded that Jill acted freely and 77% responded that Jill was morally responsible (Nahmias/Morris/Nadelhoffer/Turner 2006, 38). These results have been replicated across scenarios with different descriptions of determinism and with different actions that were good, bad, or morally neutral (Feltz/Cokely 2009; Nahmias/Morris/Nadelhoffer/Turner 2004; 2005; Nahmi-

as/Coates/Kvaran 2007). Hence, some theorists think that these results indicate that the folk have compatibilist intuitions.

2.1.4 Individual Differences

There is gathering evidence that there are widespread individual differences in philosophically relevant folk intuitions. There have been individual differences found in epistemic intuitions (Weinberg/Nichols/Stich 2001), moral intuitions (Dollinger/LaMartina 1998; Feltz/Cokely 2008; Kohlberg 1984; Haidt/Koller/Dias 1993), and intuitions about phenomenal states (Huebner/Bruno/Sarkissian, in press) to name just a few. Roughly, these individual differences fall into differences in specific intuitions, cross-cultural differences, and differences related to traits (e.g., personality).¹³

First, there is evidence of conceptual diversity among the folk. For example, there is evidence that there are individual differences in people's intuitions about intentional action. Giving participants both of Knobe's chairman cases, Nichols and Ulatowski (2007, but see also Cushman/Mele 2008) asked participants to write justifications for why they answered as they did. They found systematic differences in these written justifications. One group justified their answers that the chairman did not bring about either side effect intentionally by stating he did not *want* to do so. Another group justified their answers that the chairman brought about both side effects intentionally because he *foresaw* the side effects were going to be brought about. A third group gave both justifications—they wrote the chairman harmed the environment intentionally because he foresaw the bad side effect and the chairman did not help the environment intentionally because he did not want to help the environment.¹⁴

Second, individual differences in philosophically relevant intuitions related to global psychological traits have also been uncovered. For example, in some (and possibly all) cases, global personality traits are systematically related to people's intuitions about intentional action and to their intuitions about determinism's relation to free will and moral responsibility. Studies suggest that the global personality trait extraversion is related to the judgment asymmetry in Knobe's chairman cases (Cokely/Feltz 2009a). In some cases, extraversion also predicts those who are likely to have compatibilist intuitions (Feltz/Cokely 2009; Nadelhoffer/Kvaran/Nahmias 2009).¹⁵ These individual differences make a more complicated, rich, and accurate picture of the folk's philosophically relevant intuitions.

Third, there are also some cross-cultural differences in philosophically relevant intuitions. For example, there are differences in East Asians' and Wes-

¹³ There are also differences related to age, see Nichols/Folds-Bennett 2003 and Nichols 2004b.

¹⁴ For similar diversity of intuitions about free will and moral responsibility, see Feltz/Cokely/Nadelhoffer 2009.

¹⁵ Surprisingly, there is no current evidence that there are large cross-cultural differences in people's conception of free will and moral responsibility (Sarkissian et al., in press) or judgments about side effects (Knobe/Burra 2006).

terners' epistemic intuitions about the Truetemp case.¹⁶ East Asians are more likely than Westerners to judge that the person in a Truetemp scenario really knows (Weinberg/Nichols/Stich 2001). Similarly, there are cross cultural differences in people's intuitions about reference. Westerners are more likely than East Asians to express intuitions that are best captured by a causal-historical theory of reference (Machery/Mallon/Nichols/Stich 2004).

Individual differences in philosophically relevant intuitions are important for several reasons. First, if there are individual differences in philosophically relevant intuitions, then an accurate descriptive picture of those intuitions requires respecting those individual differences. Second, if we are interested in determining the causal mechanisms underlying those philosophically relevant intuitions, it is not legitimate to use mean data of 'the folk' when there are individual differences in those intuitions (Estes 1956). Third, understanding individual differences can be an important tool. Understanding individual differences can help design more revealing experiments that could uncover the proximal judgment processes involved in those intuitions. Finally, individual differences in philosophically relevant intuitions have applications in the normative and prescriptive projects and may help inform the adaptive perspective, as we will see. Hence, understanding and cataloging these individual differences is an essential part of experimental philosophy.

2.2 The Normative Project

Folk intuitions are also used to help settle some normative disputes. Generally, there are two ways that folk intuitions are used in the normative project. The first uses folk intuitions to put pressure on philosophical theories or conceptual analyses. The second investigates the veracity of folk intuitions themselves (Nichols 2006).

One popular strategy to put pressure on philosophical theories and conceptual analyses uses the results from the descriptive project to engage in 'burden shifting'. The basic strategy is to use folk intuitions to put an explanatory burden on theories or conceptual analyses that are inconsistent with folk intuitions. These theories must explain why the folk have intuitions inconsistent with the theory—a burden the theories that are consistent with folk intuitions do not have to shoulder. These strategies have been especially popular in the free will debate (Nahmias/Morris/Nadelhoffer/Turner 2005; 2006). For example, in Nahmias et al.'s (2006) studies, they find that the majority of people have intuitions that are consistent with compatibilism and inconsistent with incompatibilism. They argue that these data put an additional burden of proof on the incompatibilist to explain why those intuitions are mistaken—an explanation that compatibilists are not required to give. Of course, the burden shifting strategy does not claim that a position is false because it is inconsistent with folk intuitions. Rather, those positions that are inconsistent with folk intuitions have an additional *explanatory* burden.

¹⁶ The Truetemp case involves a person who can accurately determine the ambient temperature without knowing why.

Another popular strategy uses descriptive results to directly challenge philosophical theories or conceptual analyses. One prime example of descriptive results challenging conceptual analyses occurs in action theory. According to the Simple View, one intentionally *A*-s only if one intends to *A*. The Simple View is often claimed to be part of the folk concept of intentional action (McCann 2005). However, in Knobe's chairman cases we do not find this pattern of intuitions. In Knobe's harmful chairman case, participants have the intuition that the harm to the environment is brought about intentionally. But the harm to the environment is a side effect of an intended action (if the side effect is foreseen but not intended). Hence, participants think that some consequences of actions can be brought about intentionally without those consequences being intended. If participants have the intuition that some side effects can be brought about intentionally, then that falsifies the Simple View as an accurate description of folk intuitions about intentional action (Nadelhoffer 2006c).

Apart from intuitions challenging philosophical theories and conceptual analyses, the evidential status of intuitions themselves have been called into question. For example, some theorists argue that emotions may sometimes illegitimately influence the correct application of a concept. The Knobe effect is one instance that has been claimed to be the result of emotions preventing correct concept application (Nadelhoffer 2006a). People tend to allow their desire to blame the chairman who harms the environment to influence their intentionality judgments about the chairman's harmful side effect. However, no such distorting effect is present when the chairman brings about the helpful side effect. Hence, the asymmetry typical of the Knobe effect is generated by a bias in the Harm case. Likewise, Nichols and Knobe (2007) argue that compatibilist intuitions are sometimes the result of an affective performance error. This affective performance error occurs when the emotional content of a scenario gets in the way of people correctly applying their otherwise incompatibilistic concept of moral responsibility.

Apart from intuitions being illegitimately biased by emotions, there are also worries about the reliability of intuitions. For example, there are known order effects on some people's philosophically relevant intuitions. Swain, Alexander, and Weinberg (2008) have found that one's epistemic intuitions can change depending on the order scenarios are presented. In their studies, intuitions about the Truetemp case were influenced by what scenarios immediately preceded it. When participants were presented with a clear case of knowledge before Truetemp, they were less likely to judge that the person in Truetemp knows compared to when participants were presented with a clear case of non-knowledge before Truetemp. Likewise, there have been order effects discovered in Knobe's chairman cases (Cushman/Mele 2008; Cokely/Feltz 2009a; Feltz/Cokely, submitted). Order effects are troubling because it is not clear *which* intuitions are the right ones. Moreover, order effects typically operate without people being consciously aware of them. So, it is difficult to determine by reflection alone when the order of presentation influences our intuitions.

Alexander and Weinberg (2007) argue that these results are problematic for those who wish to use intuitions in their theories and conceptual analyses. Ac-

ording to Alexander and Weinberg, restrictionism is the appropriate attitude given the evidence that intuitions are sometimes unreliable and influenced by factors of which we are not aware. Restrictionism counsels that the role of intuitions in philosophy should be severely restricted. Because there is no way to determine from the armchair alone what intuitions are unreliable, they argue that philosophers should step out of their armchairs and supplement their theories with empirical results. These results may indicate when intuitions are not illegitimately influenced. Or, such investigations may uncover more instances where intuitions are unreliable. In any event, results indicating that intuitions are sometimes unreliable make it epistemically irresponsible to continue with the usual practice of philosophy.

The gathering evidence involving individual differences suggests that no philosophically relevant folk intuitions form a coherent whole (Feltz/Cokely 2009a; Nichols 2006). If the individual differences in philosophically relevant intuitions are as pervasive as the mounting evidence suggests, then there is not any ‘the’ folk view capturing large portions of philosophically relevant intuitions (Cushman/Mele 2008; Cokely/Feltz 2009b). These individual differences make the normative project even more difficult—it appears that the normative project must decide which, if any, of the sets of folk intuitions are correct. As Nichols notes, “something has to go” (2006, 81).

Finally, it appears that all philosophers shoulder at least some burden of explaining why some groups of people have mistaken intuitions (e.g., they must provide an error theory). Hence, some popular burden shifting maneuvers (Nahmias/Morris/Nadelhoffer/Turner 2005; 2006) likely apply to all philosophical views. After all, if a large and systematic portion of the population have different intuitions, then it becomes increasingly implausible to dismiss their intuitions as mere error. Rather, it is likely that those people simply have different intuitions. Hence, philosophers who have a view supported by the ‘majority’ of intuitions still have some responsibility to explain away contrary intuitions when there are systematic differences (e.g., Nahmias/Murray, in press).

2.3 The Prescriptive Project

The prescriptive project involves bridging the normative and descriptive projects to give prescriptions about what intuitions we ought to have. The prescriptive project can also help construct environments that encourage desirable intuitions (or how we can design environments to illicit more stable or accurate intuitions and judgments, as in law). The prescriptive project is independent of the normative project because even if some folk intuitions are false, it does not follow that we ought to jettison those false intuitions. Nichols (2006) argues we may not want to correct false intuitions because the practices or institutions that are underwritten by those intuitions may be too valuable to discard. Of course, just because we may not always want to correct false folk intuitions does not mean that we *never* would want to correct false folk intuitions. A couple of examples will suffice to illustrate when we may and may not want to correct folk intuitions.

Assume that Nahmias et al.'s (2006) results are correct and indicate that the folk are compatibilists. An intriguing set of studies performed by Vohs and Schooler (2008) suggests that encouraging participants to believe that determinism is true increased undesirable behaviors like cheating on a test. Vohs and Schooler speculate that making a lack of control salient to participants is one plausible mechanism that increased these undesirable behaviors. Many compatibilists take control to be an important part of free action and moral responsibility. If encouraging a belief in determinism makes a lack of control more salient, then participants may think they do not have the right kind of control over their actions to be free and morally responsible.¹⁷ If it turns out that determinism and incompatibilism are true, then we may not want to change people's intuitions because that could promote undesirable behaviors. Rather, we should leave people to their mistaken intuitions because that would have socially beneficial consequences (Smilansky 2002).¹⁸

Of course, it may end up that sometimes we should encourage change in people's intuitions. For example, Thomas Nadelhoffer (2006a) argues that moral considerations sometimes illegitimately influence people's judgments about whether a person knowingly and intentionally brought about a side effect in a real world court case.¹⁹ Whether one brings about an action knowingly or intentionally is important to determine the severity of the crime a person has committed and what punishment is warranted. According to Nadelhoffer, these findings suggest that just being accused of a heinous crime increases the chances that a person is judged to commit the crime knowingly and intentionally compared to a less heinous crime. But the severity of the crime should not influence people's judgments about one's mental states (e.g., knowing)—but it does. If these judgments are illegitimately influenced by moral considerations, then in these contexts we may want to change people's intuitions.

2.4 The Adaptive Perspective

The adaptive perspective attempts to determine what purposes people's philosophically relevant intuitions might serve, situating this understanding in an ecology. Whereas the other projects—the descriptive, normative, and prescriptive—have placed considerable emphasis on internal mechanisms, processes, and reliability of intuitions, the adaptive project shifts the focus to emphasize the interplay between people, processes, and environments. For example, one can ask why and how intuitions developed, when such intuitions would be beneficial, and for whom. The adaptive perspective is a necessary extension and natural compliment to the other three projects. If the normative project tells us what

¹⁷ See Nahmias/Coates/Kvaran 2007 and Nahmias/Murray, in press, for a more detailed discussion and empirical evidence regarding determinism being interpreted as bypassing agent's mental states.

¹⁸ For other possible sources of worry, see Viney/Waldman/Barchilon 1982 for evidence that those who believe determinism is true are more punitive.

¹⁹ That people make different judgments about whether a person knows that a good or bad side effect will be brought about is called the epistemic side effect. For more research about the epistemic side effect, see Beebe/Buckwalter, in press.

intuitions the folk should have, the adaptive project helps us bridge the descriptive and normative gap providing prescriptions for the design of decision making environments based on the fit between goals, decision makers, and decision tasks.

Mounting evidence suggests that philosophically relevant intuitions are multiply determined by a variety of factors including personality (Feltz/Cokely 2009), culture (Machery et al. 2004; Weinberg/Nichols/Stich 2001) cognitive style (Cokely/Feltz 2009; Livengood/Sytsma/Feltz/Scheines/Machery, in press), religious commitment (Goodwin/Darley 2008), and socio-economic status (Haidt/Koller/Dias 1993). A natural question to ask is *why* intuitions are related to these differences. The adaptive approach to philosophically relevant intuitions provides a unique theoretical contribution to help answer this question. Part of the answer may be that certain sorts of intuitions served an adaptive function for those groups. For example, extraverts, because of their differential social sensitivity, values, representations, and desires may find that some philosophically relevant intuitions are more useful than others (e.g., having compatibilist judgments for highly affective cases). A similar story may be told for all systematically different intuitions—because of the person's differential mental representations, sensitivities, and desires, the intuitions they have may serve a valuable adaptive function for them. Having an account of the adaptive function can help us understand why people have the intuitions they do.

Apart from the theoretical importance of the adaptive perspective, there are several important practical implications. Understanding *why* these intuitions come about can help us understand *how* we can go about altering decision-making environments so that those naturally occurring processes achieve more optimal or socially desirable results. For example, there is some evidence that if one is more optimistic, one is less likely to endorse specific euthanasia practices compared to somebody who is not very optimistic (Feltz/Cokely, unpublished data). In many circumstances, optimism (or pessimism) may be valuable general outlooks to have. But when one is making serious end of life decisions, it seems that one would want to make better decisions (suitably defined).²⁰ One intriguing idea is to design the environment so that there is a greater chance that the person will make a better decision about end of life care. Understanding and controlling for these individual differences can play an important role in designing those environments.

We can see that an accurate descriptive understanding of philosophically relevant intuitions is essential for the normative and prescriptive project and that an accurate descriptive understanding must take into account the adaptive perspective. Indeed, overwhelming data show that judgment is a function of person, process, and environment (Gigerenzer 2000). We need to know what intuitions the folk have (and why and when) before we can use them to help settle normative disputes and before we can understand what intuitions we would want to keep or revise.

²⁰ There is some reason to believe that those who are optimistic have a somewhat unrealistic view of the world (Wengler/Rosen 2000). This unrealistic view may influence their estimation of the chances of recovery for somebody who is terminally ill or in a coma.

3. Challenges and Opportunities

Experimental philosophy has not gone without challenge. The present section details two popular challenges to experimental philosophy: the expertise defense and the verbal defense.²¹ Both of these challenges pose unique opportunities for experimental philosophy.

3.1 The Expertise Defense

One of the most common objections to experimental philosophy is that the subjects of the experiments are the wrong class of people (Ludwig 2007). A natural question to ask is whose intuitions are we supposed to use as evidence in constructing *philosophical* theories or conceptual analyses?

Alexander and Weinberg (2007) think there are three possible answers. The correct set of intuitions could be an individual's own intuitions (intuition solipsism), philosophers' intuitions (intuition elitism), or everyone's intuitions (intuition populism). Alexander and Weinberg argue that intuition solipsism cannot be the correct approach because that is not what philosophers take themselves to be doing—they don't think they are just reporting their *own intuitions* but rather are reporting intuitions that are widely shared. So, either intuition elitism or intuition populism is correct.

Why not intuition elitism? One worry is that when we deal only with philosophers' intuitions, we run the risk of having nothing more than a 'philosophical fiction' as our subject matter (Mele 2001). Indeed, many philosophers take themselves to be exploring real world phenomena reflected in wide-spread intuitions and not only the intuitions of a relatively small group of people (i.e., philosophers). As Alexander and Weinberg (2007) argue, philosopher's intuitions may not be representative of most people's intuitions and may not be of a higher quality than folk intuitions. Given these worries, Alexander and Weinberg propose three challenges for the proponent of intuition elitism: (1) find evidence that there are differences between folk and philosophers' intuitions; (2) demonstrate the differences found in (1) are philosophically relevant; and (3) demonstrate that there are no relevant differences among philosophers' intuitions. One must provide evidence that 1–3 *are* true and not merely that 1–3 *might* be true. Otherwise we have no reason to think that philosophers' intuitions are any better than folk intuitions and intuition elitism fails. Intuition populism is the only other alternative lest intuitions should not play a role at all in philosophical theories or conceptual analyses.

Can challenges 1–3 be met? Each one of these challenges constitutes a separate and interesting research project. Indeed, there is already evidence that (1) is true. Those who have some philosophical training seem to exhibit a more reflective cognitive style (Cokely/Feltz 2009b; Livengood/Sytsma/Feltz/Scheines/Machery, in press). Moreover, Weinberg, Nichols, and Stich (2001) found that the number of philosophy classes one has taken can influence some philosophically

²¹ For additional criticisms, see Kauppinen 2007.

relevant intuitions. It looks likely that philosophers' intuitions can be different from folk intuitions, so the first challenge appears to have been partially met.

But (2) and (3) are either too strong or in need of refinement. Let's take (3) first. This challenge is too strong because it is neither reasonable to expect that all philosophers have the same intuitions regarding a particular case nor can they be expected to bring all of the same information to the table. Expertise is domain specific. That means that some philosophers will be roughly equivalent to the folk in many areas. For example, it would not be reasonable to expect a philosopher who specializes in bioethics to have the same deep and intricate understanding of intentional action as someone who specializes in action theory. In this case, the bioethicist would in many respects fall into the same category as the folk. Hence, it's not reasonable to require that *all* philosophers have the same intuitions.

So, there must be some suitably defined proper subset of philosophers. But how does one set the proper boundaries? Certainly using philosophers in general is too crude, but we do not want to cut so thin that we are left with intuition solipsism. Finding a principled way to distinguish something between intuition solipsism and an overly broad view of intuition elitism proposes to be a very difficult challenge. But once these difficult theoretical questions are settled, determining if those suitably defined philosophers have different intuitions is an empirical question that warrants exploration.

Finally, we can turn to (2). If we find some way to identify the proper subset of philosophers, it appears that what they think is philosophically relevant. Expertise research has found that being an expert can in some cases qualitatively change intuitions about cases (Ericsson/Lehman 1996; Ericsson/Preitula/Cokely 2007; Kahneman/Klein 2009). It is reasonable to anticipate that philosophers have some qualitatively and systematically different intuitions than the folk.

Of course, as Alexander and Weinberg note, substantiating 1–3 is ultimately an empirical endeavor. Given the current state of the evidence, one cannot say with conviction that their challenges have been met. Descriptively, it is still an open (but rapidly closing) question whether expertise makes the right kind of difference to deflect worries that philosophers' intuitions are just as diverse and unreliable as folk intuitions. More studies need to be conducted. These could be longitudinal studies that track philosophers over time or they could be cross-sectional studies that look at individuals with different levels of education (Livengood et al., in press).

3.2 The Verbal Defense

The verbal defense claims that the intuitions elicited by some experimental philosophy's surveys only show how people use words. The experiments do not show that there is real philosophical disagreement among the folk because the surveys that many experimental philosophers use involve ambiguous language (Sosa 2007). Because there are different ways participants can disambiguate the terms involved, there may be no real disagreement between participants. So, some of the surprising results from experimental philosophy do not show real

disagreement. Rather, the differences simply show that people have slightly different ways of disambiguating otherwise ambiguous terms. In order for there to be real, philosophically interesting disagreement, participants would have to disagree about the very same terms.

In response to the verbal defense, apparent disagreement (or agreement) among philosophers may also not be disagreement (or agreement) about the same propositions. If disagreement in philosophically relevant folk intuitions reflects verbal disagreements, then by parity of reasoning, the same thing applies to philosophers. Disagreement among philosophers may merely reflect verbal disputes. Not being able to tell when there is true agreement and disagreement results in general skepticism about philosophical uses of intuitions (Alexander/Weinberg 2007). Hence, the verbal defense does not appear to be an attractive strategy for defending the practice of traditional analytic philosophy from the results of experimental philosophy.

Again, more studies need to be conducted to determine how different folk and philosophers disambiguate terms. One way to determining if people disambiguate terms differently is to gather verbal reports (Ericsson/Simon 1980; see also Cokely/Kelley 2009; Gigerenzer/Hoffrage 1995). These data would allow one to determine in more detail the proximal judgment processes that generate these philosophically relevant intuitions and might indicate how people disambiguate terms (or in what ways people become confused; Stanovich/West 2000). Indeed, there is currently some evidence that people do disambiguate terms in somewhat different ways. For example, Nichols and Ulatowski (2007) find that some people disambiguate ‘intentionally’ differently. This phenomenon could be more wide-spread. Future studies are required to determine to what extent people disambiguate terms differently.

3.3 Additional Opportunities

With an accurate descriptive account of folk intuitions, there are a number of philosophically important applications of the prescriptive, normative, and adaptive projects. Just to give one example, take the individual differences approach to philosophically relevant intuitions. The individual differences approach to philosophically relevant intuitions holds that many intuitions are predictably fragmented. This fragmentation has several practical payoffs. Philosophically relevant intuitions are important for an array of real world applications and decisions. As mentioned, people’s intentionality judgments are important for court cases. But some people’s intuitions may be illegitimately biased by the emotions that are generated by the behavior. If we can identify the group of people who are likely to be biased in these ways, then we may be able to de-bias those people or not select them for some court cases. The result may be more uniform and accurate judgments about court cases. Along these lines, the individual differences approach to philosophically relevant intuitions could have implications for law (e.g., jury instruction and selection), applied ethics (e.g., informed consent), politics (e.g., voting patterns and decisions), among others. One goal would be to map out these environments and individual differences, the implications of indi-

vidual differences in these environments, and then prescribe contexts that take advantage of those judgment processes.

4. Conclusion

In this review, there were three main goals. The first offers a clear explanation of what experimental philosophy is. The second sketches the varied projects and perspectives that exist within experimental philosophy and why they are important. The last details some of the main challenges and opportunities for experimental philosophy. In the end, experimental philosophy has become an established and credible approach to philosophical problems—an approach that will uncover many more interesting phenomena that challenge and supplement traditional analytic philosophy. Real progress will require courageous researchers to develop elegant solutions to the current obstacles and debates. Only then will we increase our understanding of what it is to be rational, ethical, human, and to create a better world.

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