

# Folk Psychology and Phenomenal Consciousness<sup>1</sup>

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**Abstract:** In studying folk psychology, cognitive and developmental psychologists have mainly focused on how people conceive of non-experiential states such as beliefs and desires. As a result, we know very little about how non-philosophers (or the folk) understand the mental states that philosophers typically classify as being phenomenally conscious. In particular, it is not known whether the folk even tend to classify mental states in terms of their being or not being phenomenally conscious in the first place. Things have changed dramatically in the last few years, however, with a flurry of ground-breaking research by psychologists and experimental philosophers. In this article I will review this work, carefully distinguishing between two questions: First, are the ascriptions that the folk make with regard to the mental states that philosophers classify as phenomenally conscious related to their decisions about whether morally right or wrong action has been done to an entity? Second, do the folk tend to classify mental states in the way that philosophers do, distinguishing between mental states that are phenomenally conscious and mental states that are not phenomenally conscious?

Over the course of the last several decades a great deal of progress has been made on the question of how people understand a variety of psychological phenomena. This work on folk theory of mind, or *folk psychology*, is typically involved in explaining how we are able to predict agentic behavior by ascribing and reasoning about mental states like beliefs and desires. In particular, folk psychology is thought to be involved in our judgments that certain objects are agents and our interpretation of their movements as intentional actions (Malle; Gopnik and Meltzoff; Wellman; Perner).

There is also a range of mental states, however, that have been extremely important in the philosophical discussions of the mind since at least the time of Descartes, but that have attracted little attention from psychologists working on folk psychology. These are states such as feeling pain, seeing red, hearing a C#—in brief the states that are thought to be *phenomenally conscious*, in philosophers' jargon. While researchers have had relatively little

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to say with regard to folk psychological judgments about these mental states, this has changed in recent years with a spate of exciting new work being done by experimental philosophers and psychologists (Gray, Gray, and Wegner; Knobe and Prinz; Sytsma and Machery ‘How to Study’, ‘Two Conceptions’; Sytsma ‘Dennett’s Theory’; Arico; Arico, Fiala, Goldberg, and Nichols; Huebner; Huebner, Bruno, and Sarkissian).

Following Joshua Knobe and Jesse Prinz, much of this literature has focused on the question of whether the folk have, perhaps implicitly, something like the philosophical concept of phenomenal consciousness. I (now) think that this is unfortunate for several reasons. First, to answer this question requires having a clear understanding of the philosophical concept, but philosophers are not always clear on the point and it is arguable that there are in fact many different concepts at play. Second, an adequate answer to this question requires a metric for comparing the similarity of concepts, which might depend on the theory of concepts that one endorses. Finally, the literature most clearly deals with a prior question that can be answered without giving a full articulation of the philosophical concept of phenomenal consciousness or how a folk concept might be similar to it. The prior question is whether or not the folk classify mental states as philosophers do: Do the folk treat mental states as dividing into two basic kinds (those that philosophers take to be phenomenally conscious and those that they do not), tending to treat mental states of each kind similarly?

Focusing on the question of how the folk classify the mental states that philosophers take to be phenomenally conscious, we do not need to give a full account of the concept of phenomenal consciousness. Rather, it will suffice to note which mental states philosophers classify as being phenomenally conscious. Philosophers of mind typically hold that there is “something it is like” (Nagel) to be in a diverse range of mental states. These mental states are

thought to be phenomenally conscious in virtue of having distinctive phenomenal qualities and uncontroversial examples include *perceptual states* (seeing red, hearing a C#) and *bodily sensations* (feeling pain, nausea); further, *felt emotions* and *felt moods* (happiness, depression) are often added to this list (Levin; Tye). Phenomenally conscious mental states are generally contrasted with states like beliefs and desires that are thought to be non-phenomenal.

In this article, I will examine recent empirical research on how ordinary people understand the mental states that philosophers take to be phenomenally conscious.<sup>2</sup> In particular, I will consider two questions: Are the ascriptions that the folk make with regard to phenomenally conscious mental states involved in their judgments about whether an action is morally right or wrong? And, do the folk classify mental states as philosophers do, treating them as dividing into two basic kinds—mental states that are phenomenally conscious and mental states that are not phenomenally conscious?

I will survey recent work on these two questions, respectively, in Sections 1 and 2. Overall, this research suggests an affirmative answer to the first question, at least for some of the relevant mental states, but a tentative negative answer to the second question. Specifically, work by Justin Sytsma and Edouard Machery ('Two Conceptions') indicates that the folk do not tend to classify mental states as philosophers do. They go on to suggest that the fundamental division for the folk instead centers on whether or not a mental state is thought to have a valence. This *valence hypothesis* is explored in Section 3, and I suggest that it is compatible with the research linking the folk classification of mental states to moral cognition. Finally, in Section 4, I consider further directions that research on the folk understanding of mental states that philosophers classify as phenomenally conscious is taking.

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<sup>2</sup> I will not consider other interesting work on how people understand terms like "consciousness" more generally (see, for example, De Brigard; Wilkes).

## 1. Phenomenal Consciousness and Moral Patiency

Heather Gray, Kurt Gray, and Daniel Wegner present evidence that people distinguish between two broad aspects of having a mind. They gave participants 78 pair-wise comparisons of 13 characters (including a 7-week-old fetus, adult man, frog, a dead woman, and the robot Kismet) for one of 24 mental capacities and personal judgments. For example, one comparison solicited the participants' judgments about whether a 5-year-old girl is more or less likely to be able to feel pain than a wild chimpanzee. Gray et al. found a clear divide between those capacities that they grouped under what they termed the "Experience dimension" (including hunger, fear, pain, pleasure, rage) and those grouped under the "Agency dimension" (including self-control, morality, memory, emotion recognition). The possession of the different Experience capacities were correlated with each other across agents, as were the different Agency capacities, while the possession of these mental capacities were poorly correlated across the two groupings. Thus, while a 5-month-old human infant scored low on Agency and high on Experience, God scored high on Agency and low on Experience. (See Arico et al., however, for an empirically supported argument that agency cues are nonetheless used in making judgments about experiential mental states.)

Gray et al. also found that moral judgments about the characters related to their two dimensions of mind perception. Specifically, they found that Agency is tied to *moral agency* (whether or not an entity is capable of morally right or wrong action), while Experience is tied to *moral patiency* (whether or not an entity can have morally right or wrong action done to it). Their participants held that some agents are open to moral blame, but not moral harm, while other agents are open to moral harm, but not moral blame.

Gray et al.'s results indicate that the folk treat a range of experiential states as being similar—tending to ascribe them to the same entities—and that the ascription of such states correlate with their judgments about moral patiency. But, how should we understand Gray et al.'s Experience dimension? The choice of terminology is suggestive of the philosophical concept of phenomenal consciousness, which is often discussed in terms of *conscious experience* (or just *experience* for short). Nonetheless, Gray et al.'s Experience dimension only includes examples of some of the types of mental states that philosophers take to be phenomenally conscious. Thus, it does not include any examples of perceptual states (does not include seeing red or hearing a C#, for example). As such, this study does not tell us whether the folk tend to classify mental states as philosophers do, nor does it tell us whether folk ascriptions of mental states that philosophers take to be phenomenally conscious are correlated with their judgments about moral patiency (as opposed to some subset of those states).

As discussed in the following section, Knobe and Prinz present empirical evidence suggesting that the folk do in fact classify mental states as philosophers do. They take this to show that the folk have the philosophical concept of phenomenal consciousness. Knobe and Prinz then use this evidence to argue that folk psychology is not solely geared toward the explanation and prediction of behavior. They hold that whether or not ascriptions of phenomenally conscious mental states might facilitate behavioral explanation or prediction, they play a clear role in people's moral judgments. They tested this in their fifth of five studies. In this study, participants were asked to give a free-response answer indicating why they think that a person who has a job working with fish might be interested in ascribing either *memory* or *feeling* to the fish. The answers were then independently coded as calling on

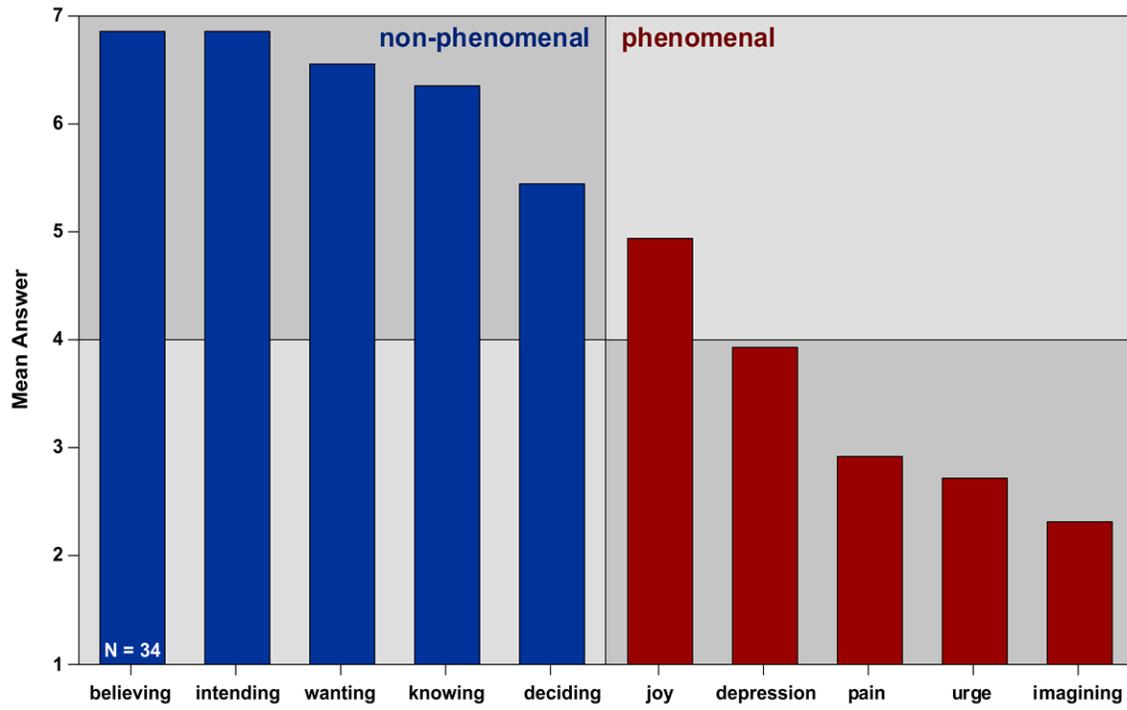
either “prediction, explanation or control” or “moral judgments.” Knobe and Prinz found that 100% of the responses for memory called on the former (while only 9% called on moral judgment); in contrast, all of the responses for feeling called on moral judgment (while none called on prediction, explanation or control). They conclude that “it seems that ascriptions of phenomenal consciousness are best understood in terms of their role in facilitating moral judgment” (82).

## **2. Classifying Phenomenally Conscious Mental States**

Despite the links drawn between moral cognition and ascriptions of phenomenally conscious mental states by Knobe and Prinz, it is important to reiterate that there are two distinct questions to be asked: First, are judgments about (at least some of) the mental states that philosophers take to be phenomenally conscious involved in ascriptions of moral patiency? Second, do the folk classify mental states as philosophers do? While the above work indicates that folk judgments about some of the mental states that philosophers take to be phenomenally conscious are involved in moral cognition, the evidence is less clear with regard to the question of whether the folk classify mental states in a way that corresponds with the philosophical concept of phenomenal consciousness.

In addition to giving a positive answer to the first question, Knobe and Prinz also gave a positive answer to the second question. Most importantly, in the second of their five studies, they asked participants to indicate how natural sounding a range of ten sentences ascribing mental states to a group agent (Acme Corporation) were. They found that participants rated the five sentences that ascribed mental states that philosophers typically take to be phenomenally conscious as less natural sounding than the five sentences that ascribed mental

states that philosophers do not typically take to be phenomenally conscious.<sup>3</sup> The results are shown in Figure 1.



**Figure 1: Results, Knobe and Prinz Study 2.**

Knobe and Prinz interpret this body of evidence as showing that (i) the folk distinguish between phenomenally conscious mental states and mental states that are not phenomenally conscious and (ii) that in contrast to the latter mental states, the ascription of phenomenally conscious mental states does not merely depend on the functional properties of the ascriber's states.

This conclusion has attracted the attention of critics, however (Arico; Sytsma and Machery 'How to Study'). Notably, Sytsma and Machery target the conclusion that the folk

<sup>3</sup> The five non-phenomenal sentences are: Acme Corp. believes that its profit margin will soon increase; Acme Corp. intends to release a new product this January; Acme Corp. wants to change its corporate image; Acme Corp. knows that it can never compete with GenCorp in the pharmaceuticals market; Acme Corp. has just decided to adopt a new marketing plan. The five phenomenal sentences are: Acme Corp. is now experiencing great joy; Acme Corp. is getting depressed; Acme Corp. is feeling excruciating pain; Acme Corp. is experiencing a sudden urge to pursue internet advertising; Acme Corp. is now vividly imagining a purple square.

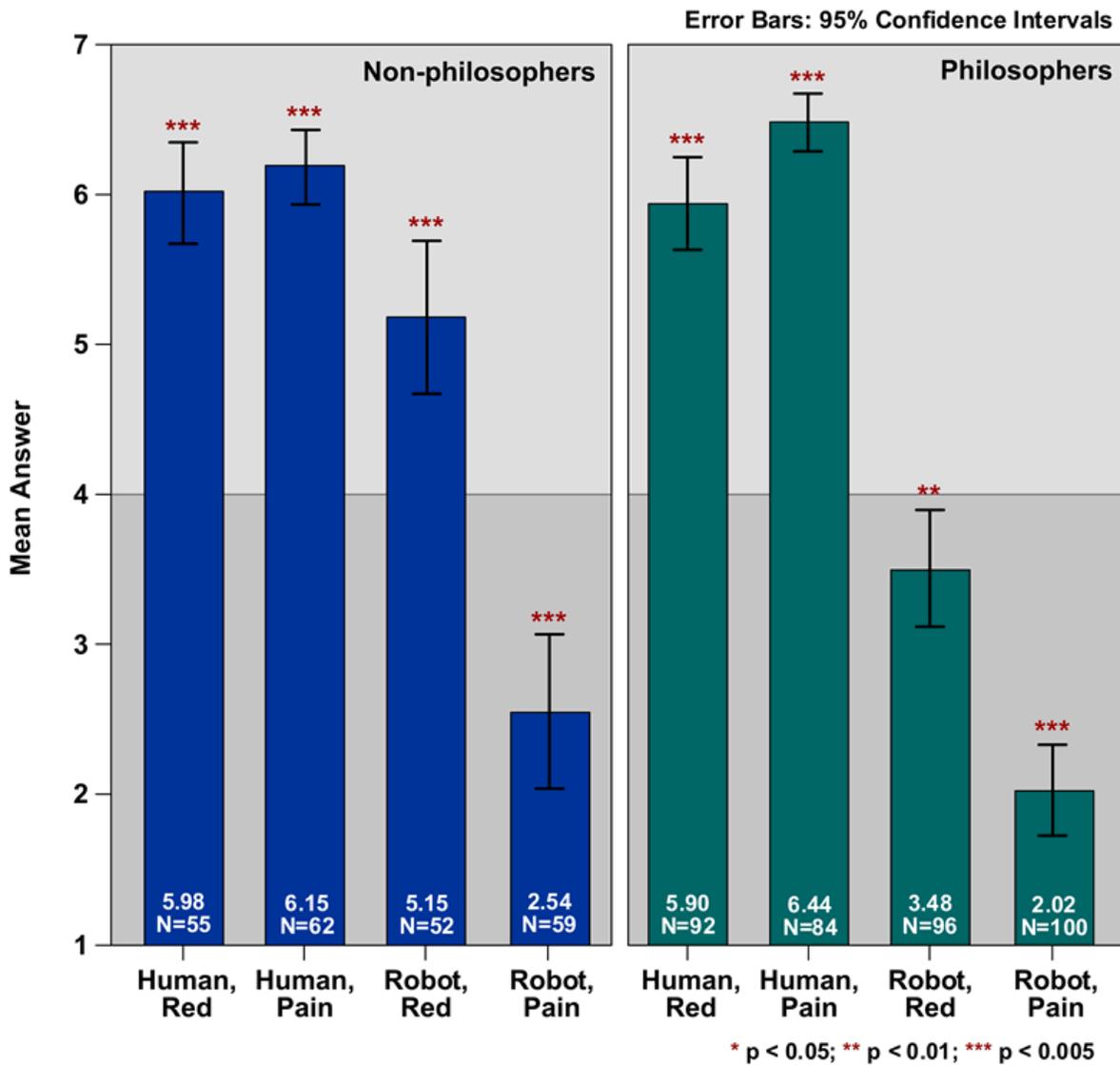
specifically distinguish between mental states that are phenomenally conscious and mental states that are not phenomenally conscious. They contend that there is a natural alternative to Knobe and Prinz's explanation of their data, noting that corporations and individual humans differ in some significant behavioral and functional ways. Unlike an individual, Acme Corporation is distributed; while it is comprised, in part, of individual human bodies, it does not have its own body with which to bodily express joy or disgust, for example. As such, when people deny that Acme Corporation can experience great joy, it is unclear whether they focus on the supposed phenomenality of this state as opposed to the striking functional and behavioral differences between corporations and humans. For this reason, Sytsma and Machery charge that Knobe and Prinz's empirical work is ultimately inconclusive about whether or not the folk have the philosophical concept of phenomenal consciousness.

In fact, in a subsequent article Sytsma and Machery ('Two Conceptions') found that the folk do not classify mental states as philosophers do. They began by noting that phenomenal consciousness is a technical term in philosophy of mind. As discussed in the introduction, the definitions of the key terms in this area are often contentious, but the standard line is that there is something it is like to be in phenomenally conscious mental states. Sytsma and Machery show that these states are standardly said to have phenomenal qualities, or *qualia*, in virtue of which they are phenomenally conscious. For example, Peter Caruthers notes that "many philosophers use the term 'qualia' liberally, to refer to those properties of mental states (whatever they may be) in virtue of which the states in question are phenomenally conscious" (15). Sytsma and Machery then illustrate that uncontroversial examples of phenomenally conscious mental states include perceptual states (such as seeing red) and bodily sensations (such as feeling pain).

Sytsma and Machery argue that if the folk have the philosophical concept of phenomenal consciousness, then they should tend to classify mental states as philosophers do, treating paradigmatic examples of phenomenally conscious mental states similarly. Specifically, both philosophers and non-philosophers should deny that an entity that is presumably too simple to be phenomenally conscious can either see red or feel pain. Sytsma and Machery reasoned that if it is correct that the folk classify mental states as philosophers do, then we would expect both groups to treat perceptual states like seeing red analogously to bodily sensations like feeling pain, tending to deny both to a simple non-humanoid robot. The first of their three studies tested this hypothesis. This online study was open to both philosophers and non-philosophers, with participants being given a description of an agent (either an undergraduate student or a simple robot) performing behaviorally analogous tasks that were designed to elicit judgments that the undergraduate had undergone a phenomenally conscious mental state. In each of the scenarios either the undergraduate or the robot was instructed to manipulate one of three boxes distinguished by color. In two of the four scenarios, that manipulation was successful and the participants were asked whether the agent “saw red,” answering on a 7-point scale anchored at 1 with “clearly no,” at 4 with “not sure,” and at 7 with “clearly yes.” In the other two scenarios, the agent was electrically shocked and participants were asked whether the agent “felt pain,” answering on the same scale.

Dividing the participants into two groups on the basis of their philosophical training, Sytsma and Machery found that the responses of philosophers were consistent with the hypothesis, while the responses of non-philosophers were not. They found that the philosophers surveyed treated the perceptual experience and the bodily sensation analogously, refusing to ascribe either state to the robot and ascribing both states to the undergraduate. In

sharp contrast to philosophers, however, non-philosophers did not treat these states analogously: While non-philosophers were willing to ascribe both the perceptual state of seeing red and the bodily sensation of feeling pain to the undergraduate, they diverged from philosophers in ascribing seeing red to the robot. Like philosophers, the non-philosophers surveyed were not willing to ascribe feeling pain to the robot. The results are shown graphically in Figure 2.



**Figure 2: Results, Sytsma and Machery ('Two Conceptions') Study 1.**

In contrast to the prediction derived from Knobe and Prinz's claim that the folk have the philosophical concept of phenomenal consciousness, Sytsma and Machery's results suggest that there is a divergence between how philosophers and the folk classify mental states. On average, the folk (but not philosophers) were willing to ascribe the perceptual state of seeing red to a simple robot. As such, their results offer some preliminary evidence that in contrast to philosophers, the folk do not tend to treat the mental states tested as being of the same type, i.e. as both being phenomenally conscious.

Sytsma and Machery discuss a number of objections that have been raised against the conclusion they draw from their first study. Most prominently, it has been argued that non-philosophers do take mental states like seeing red and feeling pain to be phenomenally conscious, but that they simply do not make use of those judgments in this study. Specifically, it has been suggested that non-philosophers distinguish between two senses of the term "see"—one that only requires that the agent make the relevant discriminations between perceptual stimuli and one that requires that the agent be in the relevant phenomenally conscious mental state; the critic then argues that the non-philosophers in Sytsma and Machery's study read the test question in the first sense when they affirmed that the robot "sees red." This argument was suggested by Bryce Huebner and forcefully put forward by Eric Schwitzgebel in his commentary on Sytsma and Machery's paper at the 2008 *Society for Philosophy and Psychology* meeting.

Sytsma ('Dennett's Theory') has responded to this objection further, presenting evidence that the folk by and large hold a naïve view of colors, treating the colors that we are acquainted with in ordinary perception as mind-independent qualities of external objects. This view of colors is not straightforwardly compatible with dividing "seeing" into the two senses

suggested above: The relevant discriminations are with regard to the colors that we are acquainted with and these colors are not taken to be mental. More surprisingly, Sytsma presents evidence suggesting that the folk also by and large hold a naïve view of pains.

Accepting for the sake of discussion that the folk do not classify mental states as philosophers do, how do they classify mental states? Sytsma and Machery investigate this question in two follow-up studies. Their results suggest that the folk classify mental states in terms of whether or not they are thought to have a valence.

### **3. Folk Ascriptions and Valence**

Sytsma and Machery's second and third studies used the same methodology as their first—comparing a simple robot to a normal human—to explore the responses of non-philosophers for the mental states of feeling anger and smelling a range of olfactory stimuli. In their second study they found that while participants treated feeling anger analogously to feeling pain (denying both of the robot), they were split on the attribution of smelling banana to the robot (the mean response was not significantly different from a neutral response). Sytsma and Machery hypothesized that the folk's willingness to ascribe mental states to a simple robot was sensitive to whether or not they associated a valence with that state; that is, whether or not they thought it was essential to being in the state is that it be either liked or disliked, or have an “hedonic value” (Robbins and Jack). This hypothesis is nicely congruent with recent work by Nick Haslam and colleagues showing that people in Australia, China, and Italy found that in comparison to humans, robots “are most deficient in emotion and desire” (254).

In contrast to externally directed states like seeing a red box that are plausibly thought to lack valence, internally directed states like feeling pain are plausibly thought to critically

involve a negative valence. States like smelling banana, however, both involve perceptual discriminations of external stimuli and are plausibly thought to involve a positive valence that is not critical to the perceptual discriminations. Sytsma and Machery hypothesized that the folk were divided in their judgments about whether the robot smelled banana because while they hold that the robot is capable of perceiving the scent of banana, they also hold that it is incapable of liking that scent. They then predicted that the folk would be willing to ascribe olfactory perceptual states to the robot that they did not associate with either a positive or a negative valence.

Sytsma and Machery's third study tested this prediction by comparing participants' responses for three olfactory stimuli—a familiar stimulus that participants were likely to think is pleasant to smell (banana), a familiar stimulus that participants were likely to think is unpleasant to smell (vomit), and a stimulus that participants were unlikely to be familiar with and therefore unlikely to think of as either pleasant or unpleasant to smell (isoamyl acetate). They found that while the mean responses for banana and vomit were not significantly different from the neutral response, participants readily ascribed the state of smelling isoamyl acetate to the robot.

One potential objection to Sytsma and Machery's third study is that the folk did not treat the olfactory perceptual states differently because they made different judgments about whether these states had a valence, but treated them differently because one of the stimuli was thought to be more relevant to the robot's interests. Thus, it might be that participants were more likely to say that the robot smelled isoamyl acetate than banana because detecting chemicals is more relevant to the robot's interests than detecting pieces of fruit.<sup>4</sup> If this hypothesis is correct, then Sytsma and Machery's third study does not provide evidence in

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<sup>4</sup> I wish to thank an anonymous reviewer for *Philosophy Compass* for raising this objection.

favor of the valence hypothesis, suggesting that an alternative explanation might be needed of why the folk treat perceptual states like seeing red differently from bodily sensations like feeling pain (both of which are plausibly relevant to the robot's interests).

Nonetheless, setting this objection aside for the sake of discussion, Sytsma and Machery argue that rather than classify mental states in terms of whether or not they are thought to be phenomenally conscious, the folk instead classify them in terms of whether or not they thought it was essential to being in the state that it have a valence. While this conclusion might seem to contradict the studies reviewed in Section 1, it is in fact quite compatible with the finding that folk ascriptions of some mental states are relevant to their moral cognition. In effect, Sytsma and Machery reinterpret Gray et al.'s results, noting that their Experience dimension does not include examples of one of the most paradigmatic types of phenomenally conscious mental states: It includes no perceptual experiences such as seeing red or smelling banana. It is therefore possible that judgments of moral patiency are most directly linked to judgments that an agent is capable of having mental states that are thought to have a valence and not specifically to the agent being capable of having phenomenally conscious mental states. Thus, the fifth study conducted by Knobe and Prinz compares remembering with feeling. While remembering where to find food in a lake is not clearly suggestive of valence, this is not the case for feeling. In fact, it is reasonable to assume that in asking why a fisherman might want to know about whether fish are capable of feeling, there is an implication that the state of interest is pain (which is clearly associated with valence).

Sytsma and Machery conclude that if their hypothesis is correct, then it potentially has significant philosophical implications. Most notably, their findings cast doubt on a common justification given for the reality of the "hard problem of consciousness" (Chalmers, *The*

*Conscious Mind*). While philosophers like David Chalmers often justify the claim that there is a real problem, here, by arguing that phenomenal consciousness is undeniable because it is “the most central and manifest aspect of our mental lives” (‘Facing Up’ 207), Sytsma and Machery’s results suggest that phenomenal consciousness might not be so central and manifest. If their account of how the folk classify mental states is correct, then this suggests that the folk do not find it to be obvious that mental states like seeing red and feeling pain have something central in common (namely that they are phenomenally conscious), despite their first-person experience with such mental states.

An obvious response to Sytsma and Machery’s argument is that just because the folk do not classify mental states as philosophers do, this does not imply that a hard problem does not arise with regard to some of the mental states that philosophers take to be phenomenally conscious. In particular, it might be argued that a new hard problem emerges for those states that people are unwilling to ascribe to the simple robot—that is, mental states that they think have a valence.

The core of the hard problem of consciousness is that certain mental states seem to resist functional explanation. As David Chalmers expresses the point (‘Facing Up’ 203): “Even when we have explained the performance of all the cognitive and behavioral functions in the vicinity of experience—perceptual discrimination, categorization, internal access, verbal report—there may still remain a further unanswered question: *Why is the performance of these functions accompanied by experience?*” This core of the hard problem could be maintained while restricting the range of “experiences” that are thought to pose a problem. Thus, it might be argued that mental states that have a valence are not fully open to functional or neuroscientific explanation and that this is indicated by the folk’s unwillingness to ascribe

these mental states to the robot. If the folk conception of mental states with valence is such that even after the relevant performances have been explained there seems to remain an outstanding question of why those performances are accompanied by valence, then Chalmers's argument could be re-run. Currently, however, it is not clear that the folk do (or should) conceive of valence in a way that resists functional explanation or that might generate a *hard problem of valence*.

Sytsma ('Phenomenological Obviousness') argues that Sytsma and Machery's results have a related implication for some scientific work, putting pressure on scientists interested in explaining phenomenal consciousness. The argument is that the existence of phenomenal consciousness is often taken to be obvious to a subject just in undergoing the relevant mental states. But, it is not clear that phenomenal consciousness is obvious to the folk despite their undergoing states like seeing red and feeling pain. As such, Sytsma argues that these researchers owe us an alternative justification for their claims that the supposed scientific phenomenon of phenomenal consciousness actually exists.

Whether or not Sytsma and Machery's theory of how the folk classify mental states is correct, and whether or not it has significant philosophical and scientific implications if it is, are questions that continue to be pursued.

#### **4. Further Directions**

The research reviewed above has made significant progress toward understanding how the folk classify mental states and the role of these classifications in judgments about moral patiency. This work suggests that while folk ascriptions of some mental states that philosophers take to be phenomenally conscious are involved in the judgments that the folk

make about moral patiency, the way that they classify mental states might not coincide closely with the philosophical distinction between mental states that are phenomenally conscious and mental states that are not phenomenally conscious. Nonetheless, there is still much more work to be done in this area. In this section I discuss a few further directions that this work is taking.

As we saw above, Sytsma and Machery ('Two Conceptions') present preliminary evidence that how the folk classify mental states is linked to judgments about valence. Currently, however, their findings only relate to a small sub-set of those states that philosophers take to be phenomenally conscious and only involve comparisons to one type of non-human agent (a simple robot). Further, there are potential objections to the studies supporting their theory. Additional research is under way to replicate and extend these results, investigating whether they generalize to other mental states and to a wider range of agents.

It is also important to investigate what cues drive folk ascriptions of the mental states that philosophers classify as phenomenally conscious. Work on this topic has been pioneered by Bryce Huebner and by Adam Arico, Brian Fiala, Robert Goldberg, and Shaun Nichols. Huebner has conducted two experiments comparing ascriptions of belief, pain, and happiness to four agents: a normal human, a cyborg with a human brain but a robot body, a cyborg with a human body but a robot brain, and a robot. Across the experiments he found that there was no significant difference in the participants' willingness to ascribe beliefs to each of the four agents. In contrast, Huebner found that they were significantly less likely to ascribe feeling pain to the two agents with robotic bodies than to the two with human bodies. For the case of happiness, however, participants were significantly more likely to ascribe the emotion to the human than to any of the other three agents. This suggests that information about both type of

body and type of brain are important to folk ascriptions of some mental states (feeling happiness), that information about type of body is most important to ascriptions of some mental states (feeling pain), and that neither is especially important to ascriptions of some mental states (belief). Further, based on these results, Huebner argues that judgments about emotions play a central role in determining what degree of moral concern an agent deserves.

Arico et al. have investigated the role of simple agency cues (facial features, motion trajectories, contingent interaction) in ascriptions of different mental states. They ran a reaction time study in which participants performed a property-attribution task. They were presented with a sequence of object/attribution pairs and asked to indicate whether the object was capable of having the attribute. The attributes of interest involved three mental states that are typically associated with valence—feeling anger, feeling happy, and feeling pain. Objects were drawn from categories including insects, plants, vehicles, and natural moving objects (such as clouds). Arico et al. found that participants were significantly more likely to ascribe the three mental states noted above to insects than to any of the items lacking simple agency cues. Further, in denying that insects were capable of having these mental states, participants were significantly slower than when denying those states to vehicles or natural moving objects. Interestingly, the same pattern held for plants, with participants showing no significant difference in reaction times between plants and insects. Arico et al. suggest that this might indicate the importance of judgments that an entity is living for ascriptions of mental states that philosophers take to be phenomenally conscious.

## **5. Conclusion**

In investigating folk psychology, cognitive and developmental psychologists have primarily investigated how people understand mental states like beliefs and desires that philosophers typically classify as non-phenomenal. This has changed in recent years with a number of intriguing studies looking at the folk understanding of phenomenally conscious mental states being performed by experimental philosophers and psychologists. I have surveyed this literature, focusing on two questions: (1) Are folk ascriptions of mental states that philosophers take to be phenomenal related to folk judgments about moral patiency? (2) Do the folk classify mental states as philosophers do, treating them as dividing into two basic kinds (phenomenal and non-phenomenal mental states)? The current evidence suggests a restricted positive answer to the first question and a tentative negative answer to the second question. The empirical studies surveyed indicate that folk ascriptions of at least some of the mental states that philosophers classify as phenomenally conscious are related to their judgments about moral patiency and tentatively suggest that the folk do not classify mental states as philosophers do, tending to treat some paradigmatic examples of phenomenally conscious mental states dissimilarly.

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