

## DOES THE FOLK CONCEPT OF PHENOMENAL CONSCIOUSNESS EXIST?

– Michał Wyrwa –

**Abstract:** Philosophers and scientists refer to the special character of phenomenal consciousness, something supposedly obvious to all conscious persons. However, we had no empirical evidence about the folk view of consciousness until the first studies were carried out in the experimental philosophy of consciousness. According to the leading interpretation of these results, laypersons – people without academic knowledge about consciousness – do not notice the phenomenal aspect of consciousness. The aim of the article is to answer the question of whether we can trust these results. I show that there are serious doubts about the validity of the experimental philosophy of consciousness research. As a result, the leading interpretation should be rejected, and the question about the folk nature of the concept of consciousness must be regarded as open.

**Keywords:** phenomenal consciousness, experimental philosophy, folk psychology, validity, philosophy of consciousness, obviousness of consciousness

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Is consciousness an obvious phenomenon? We can respond to this question in a variety of ways, depending on our understanding of what consciousness is and of what being obvious means. In this article, I focus on one such response and investigate whether it is empirically justifiable. According to this response, the phenomenality of consciousness is evident for all conscious people. In other words, not only philosophers of consciousness have the concept of phenomenal consciousness:<sup>1</sup> laypeople notice that their conscious mental states exhibit special kinds of properties, thanks to which there is something it is like to be in these conscious states.

At first glance, such a claim might seem highly unlikely, after all the term “phenomenal consciousness” originates from the philosophy of consciousness.<sup>2</sup> However, the claim in question is quite widely accepted by scholars of consciousness, scholars that otherwise disagree about a variety of topics regarding consciousness.<sup>3</sup> For a long time, we had no empirical evidence on this claim but, thanks to the experimental philosophy

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<sup>1</sup> For the sake of brevity, I will call phenomenal consciousness “PC”.

<sup>2</sup> Crane (2000); Keeley (2009).

<sup>3</sup> E.g., Goff (2017): 2; Koch (2019): 3; Stoljar (2006): V.

of consciousness (CXPhi), it seems that now we do. However, I disagree with this interpretation and in this article I show that the question of whether laypeople possess the concept of PC remains very much open.

I start by elaborating on the obviousness of consciousness claim, arguing that CXPhi is helpful in its corroboration, before proceeding to review the existing CXPhi research. In the third section, I show that there are validity concerns regarding CXPhi studies. The issue here is that to date the concept of PC has not been properly operationalized. In the last section, I conclude that while today's CXPhi enriches our knowledge about the attributions of folk mental states, it tells us little about the folk view about consciousness. As a result, the question that I had put forward in the title of this paper remains open: we simply do not have enough convincing data to answer it.

## 1. Why investigate the folk view about consciousness?

One can investigate the folk view about consciousness simply out of curiosity, as did Knobe & Prinz, who were the first to investigate this issue.<sup>4</sup> While curiosity is a sufficient justification itself, here I am concerned with a different reason: CXPhi can test whether the phenomenality of conscious experiences is obvious for every conscious person.

Scholars often claim that this is the case: "phenomenal consciousness is the most folk psychologically obvious thing or feature that the positive examples [of conscious mental states] possess";<sup>5</sup> "The great strength of this commonsense definition – consciousness is experience – is that it is completely obvious. What could be simpler?";<sup>6</sup> "even if we cannot *say* what it [consciousness] is, nonetheless each of us in the privacy of our own minds *knows* what it is,"<sup>7</sup> "while 'phenomenal consciousness' is a technical term, the property it refers to is part of our common-sense picture of the world. Almost everyone believes that there is something that it's like to be a hamster, but there is nothing that it's like to be a rock or a planet."<sup>8</sup> In short, consciousness is "phenomenologically obvious."<sup>9</sup>

According to the above quotes, the aspect of consciousness that is considered obvious is PC.<sup>10</sup> One does not need to be an expert philosopher of mind or scholar of consciousness to understand that every conscious experience exhibits a property

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<sup>4</sup> "We truly have no ulterior motives. We are genuinely intrigued by the intuitions [about consciousness – MW] themselves" (Knobe, Prinz 2008: 68). If such curiosity regards simply what is the folk view, then experiments designed to answer this question are a part of the descriptive program of XPhi (Sytsma, Livengood 2015b: 75–78). However, this curiosity can involve seeking sources of the folk view – "we want to get a better understanding of the psychological mechanisms that generate them [intuitions about consciousness]" (Knobe, Prinz 2008: 68) – an approach of the cognitive program of XPhi (Sytsma, Livengood 2015b: 64–75). Using different distinctions, those favored by Nadelhoffer, Nahmias (2007) and Kuś, Maćkiewicz (2016), we could say that this research is an example of the experimental descriptivism, while the former – simply providing what are the intuitions of laypeople regarding consciousness – is an example of the experimental analysis.

<sup>5</sup> Schwitzgebel (2016): 230.

<sup>6</sup> Koch (2019): 3.

<sup>7</sup> Humphrey (2006): 3.

<sup>8</sup> Goff (2017): 2.

<sup>9</sup> Stoljar (2006): V.

<sup>10</sup> A more in-depth analysis about this can be found in Sytsma (2009).

of what it is like to undergo that experience. Every conscious human being comprehends that conscious mental states are phenomenal. This comprehension can be tacit, as it is unlikely for non-experts to be familiar with philosophical vocabulary.

I will term the claim that PC is obvious, or that laypeople have the concept of PC, the obviousness claim.<sup>11</sup> I think this claim is worthy of empirical investigation rather than just assuming it is true for two reasons: (1) the claim is accepted by scholars of consciousness; (2) the claim deals with an empirical, testable issue of how laypeople view consciousness.

Before I introduce the leading interpretation of CXPhi research I want to deal with a potential worry one might have with experimental philosophy (XPhi) as such. Is it not the case that by investigating whether empirical evidence supports philosophical claims one discredits armchair philosophy with its focus on intuition and reflection? I find that worry mistaken, as to seek empirical evidence is not straightaway being involved in the XPhi negative program, the critique of theoretical philosophy.<sup>12</sup> I take a broader view of XPhi, seeing it as the usage of empirical methods to answer philosophical questions,<sup>13</sup> a usage that has become increasingly mature in recent years, both methodologically<sup>14</sup> and theoretically.<sup>15</sup> XPhi enriches philosophical debates and doing so does not discredit the past and future accomplishments of armchair philosophy. Empirical methods are useful when claims made by philosophers are empirically testable, and such is the obviousness claim. Inquiries into the nature of consciousness have not, and will not, lose their philosophical character.

What does CXPhi research tell us about the folk view on consciousness?

## 2. The leading interpretation

The quest to discover whether laypeople have the concept of PC has been the rationale behind much of CXPhi research.<sup>16</sup> According to the leading interpretation of this research, laypeople do not have the concept in question but some early studies have indicated otherwise, i.e., they supported the obviousness claim. However, these studies fall into one of two categories: either their findings were not replicated in studies with more rigorous experimental designs, or they raise methodological concerns. For example, the results of Peressini<sup>17</sup> indicated that laypeople do notice phenomenality of experience, but since the participants were instructed on how to understand the “experiencer” and “non-experiencer” categories, the study measured how they use these new concepts

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<sup>11</sup> The meaning of “being obvious” is far from obvious. Possibly, the obviousness of consciousness can be separated from the phenomenality of consciousness. However, due to space constraints I will not expand on this topic here.

<sup>12</sup> Alexander, Mallon, Weinberg (2010); Weinberg (2017); Williamson (2016).

<sup>13</sup> Rose, Danks (2013); Sytsma, Livengood (2015a); Weinberg (2016).

<sup>14</sup> Cova, Strickland, Abatista et al. (2021); Fischer, Curtis (2019); Stuart, Colaço, Machery (2019).

<sup>15</sup> Bickle (2019); Knobe (2016); Rose, Danks (2013).

<sup>16</sup> See the overview papers by Gonnerman (2018) and Sytsma (2010b, 2014a). The issue of laypeople having the concept of PC has been the main problem for researchers, but CXPhi findings go beyond this single issue. Researchers try to also reconstruct the folk view about consciousness in greater detail. I briefly refer to these efforts at the end of this section.

<sup>17</sup> Peressini (2014).

rather than their folk view about consciousness.<sup>18</sup> The results of Knobe & Prinz,<sup>19</sup> on the other hand, indicated that laypeople differentiate between phenomenal and non-phenomenal mental states, as they only attribute the latter to group agents. However, these results were not replicated in more rigorous designs. Knobe & Prinz did not balance their stimuli and, in later studies with corrected designs, the difference in attributing phenomenal and non-phenomenal states was no longer visible.<sup>20</sup>

In their seminal study, Sytsma & Machery (SM) tested how philosophers and non-philosophers attribute perceptual experiences (seeing red) and bodily sensations (feeling pain) to a human and to a small, non-humanoid robot.<sup>21</sup> In each case, the vignette depicted an agent (human or robot) having to find a red box among boxes in different colors (red, blue, and green) and put it in front of the door. In “seeing red” conditions both human and robot agents performed the task. In “feeling pain” conditions, agents received an electric shock from the red box and did not try to move the box again. In the former case participants were asked “Did [AGENT] see red?” and in the latter “Did [AGENT] feel pain?”. All conditions utilized the same response format: an ordinal scale from 1 to 7, with “1” labeled as “Clearly no”, 4 as “Not sure”, and 7 as “Clearly yes”. As both visual perceptions and bodily sensations are among the typical examples of phenomenal mental states, the authors hypothesized that philosophers will attribute both seeing red and feeling pain to humans, but deny robots both states, as the non-humanoid robot will not be perceived as having PC. If laypeople possessed the concept of PC, they should respond in the same manner as philosophers. However, while philosophers responded as expected, laypeople attributed seeing red to the robot agent and denied that the robot had a feeling pain state.<sup>22</sup> Thus, the “philosophers’ concept of phenomenal consciousness is not how the folk understand subjective experience.”<sup>23</sup>

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<sup>18</sup> See Sytsma (2014): 644. Consider this description of experiencers: “Each of us as conscious human beings have an ‘inner life.’ We are aware of things going on around us and inside our minds. In other words, there is something it is like to be each of us at any given moment: the sum total of what we are sensing, thinking, feeling, etc. We are experiencers. On the other hand, things like thermostats, burglar alarms, and bread machines do not have an inner life: there is not anything it is like to be these objects, despite the fact that they can monitor conditions around them and make appropriate things happen at appropriate times. They are not experiencers” (Peressini 2014: 643–644).

<sup>19</sup> Knobe, Prinz (2008).

<sup>20</sup> Sytsma, Machery (2009) noticed that Knobe, Prinz (2008) did not control for the difference between behavior appropriate for group agents (e.g., hiring) and individuals (e.g., walking). They hypothesized that non-experts know which actions are group-appropriate and which are individual-appropriate (which explains the results obtained by Knobe, Prinz) but they do not know that phenomenal mental states are related to individual actions. Another issue, raised also by Arico (2010), related to Knobe, Prinz not balancing their stimuli. Sentences describing phenomenal states lacked the prepositional phrase that sentences describing non-phenomenal states had (e.g., “Acme Corp. is feeling upset” vs “Acme Corp. is upset about the court’s recent ruling”). The original results of Knobe, Prinz were not replicated in studies with corrected designs (Arico 2010; Sytsma, Machery 2009).

<sup>21</sup> Sytsma, Machery (2010).

<sup>22</sup> One-sample t-test was used to see whether mean answer in each condition was different from the neutral one (4). All results were statistically significant: philosophers attributed seeing red ( $M = 5.90$ ,  $SD = 1.46$ ) and feeling pain ( $M = 6.44$ ;  $SD = 0.87$ ) to the human agent and denied that robot had these states (respectively:  $M = 3.48$ ;  $SD = 1.94$  and  $M = 2.02$ ;  $SD = 1.53$ ). Laypeople attributed seeing red ( $M = 5.98$ ,  $SD = 1.25$ ) and feeling pain ( $M = 6.15$ ,  $SD = 1.01$ ) the human agent, attributed seeing red to the robot agent ( $M = 5.15$ ,  $SD = 1.85$ ) and denied that robot felt pain ( $M = 2.54$ ,  $SD = 1.99$ ).

<sup>23</sup> Sytsma, Machery (2010): 308.

Later studies corroborate SM's original findings. In response to criticism of the 2010 study that participants should use System Two, the conscious and reflective mode of cognition, to make judgments about consciousness,<sup>24</sup> SM showed that eliciting more reflective responses does not change the results: laypeople still attribute seeing red to the robot agent.<sup>25</sup> The 2010 study was also one of 40 XPhi studies that were selected for the XPhi Replicability Project;<sup>26</sup> laypeople were more likely to attribute seeing the red state to the robot agent than philosophers.

Sytsma and Ozdemir's (SO) 2019 study was the third to replicate SM findings. It was inspired by the challenge of the meta-problem of consciousness. The challenge is to explain why we have problem intuitions, i.e., why we think there is something hard and problematic about consciousness.<sup>27</sup> According to Chalmers, such problem intuitions are widespread and it appears there are some universal or near-universal factors contributing to them.<sup>28</sup> SO argued that to have problem intuitions one has to recognize the phenomenal aspect of consciousness.<sup>29</sup> If people do not recognize that conscious mental states are phenomenal mental states, there is no meta-problem of consciousness, at least for laypeople. To test this, SO expanded the 2010 experimental design with four additional conditions. In these new conditions, participants were asked whether an agent was "experiencing" a mental state ("experiencing red" or "experiencing pain"). The authors aimed to waive the objection that "seeing" and "feeling" would not be read phenomenally. They thought that because "to experience" is often used to describe PC, new phrases should elicit intuitions about experiential states in laypeople even if "seeing" and "feeling" would not. However, SO's results mirror the original results from 2010: laypeople were likely to attribute seeing and experiencing red to the robot agent but were reluctant to attribute feeling and experiencing pain to it. From the perspective of the folk view about consciousness, these results indicate – just as 2010 results – that laypeople do not possess the concept of PC. On the other hand, in terms of the meta-problem, SO outcomes indicate that problem intuitions are not widespread and thus the meta-problem of consciousness does not exist or, at the very least, it needs rephrasing to account for it not being present among laypeople.

As I stated, the leading interpretation of CXPhi results is the one that reads SM and SO results as indicating that there is no folk concept of PC. Nevertheless, the experimental design of SM's seminal study was criticized. I have already commented upon one such criticism above: Talbot's argument that probing laypeople's intuitions about consciousness requires the elicitation of System Two responses from participants. There is another objection, one that was raised by several researchers, namely the ambiguity objection.<sup>30</sup> The objection is as follows: the results in SM's 2010 study were as they were

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<sup>24</sup> Talbot (2012).

<sup>25</sup> Sytsma, Machery (2012).

<sup>26</sup> Cova, Strickland, Abatista et al. (2021).

<sup>27</sup> Chalmers (2018).

<sup>28</sup> "I think the central [problem] intuitions are widely shared well beyond philosophy (...) there are also near-universal factors that play a central underlying role in explaining problem intuitions where they are present" (Chalmers 2018: 13, 15).

<sup>29</sup> Sytsma, Ozdemir (2019): 253.

<sup>30</sup> Buckwalter, Phelan (2013); Fiala, Arico, Nichols (2014); Huebner (2010); Talbot (2012).

because philosophers and non-philosophers interpret terms like “seeing red” and “feeling pain” differently (philosophers as referring to phenomenal states, non-philosophers as to non-phenomenal states). Nevertheless, the results which seemingly backed up the objection were not replicated in more rigorous studies. For example, results obtained by Fiala et al. suggested that laypeople more often talk about “detecting” or “identifying” than “seeing” a color, thus, they interpret “seeing red” not as about a phenomenal state but as about a capacity to distinguish colors. The problem with this study was that options that participants could select as their response were neither evenly structured<sup>31</sup> nor were they randomized across participants. To investigate whether these problems influenced results, Sytsma ran replication studies with fixed designs. Contrary to Fiala et al. initial results, participants were willing to attribute to a non-humanoid robot not only “detecting” a color, “identifying” and “locating” a colorful object, but also a mental state of “seeing” color.<sup>32</sup>

If the leading interpretation is correct and laypeople do not recognize the phenomenality of consciousness, then why do they attribute mental states that philosophers identify as typical phenomenal states the way they do? The first explanation on this subject was proposed by SM and referred to recognizing a hedonic value in mental states that were attributed. Feeling pain has hedonic value, it is unpleasant, so laypeople attribute it only to humans. Seeing red does not have hedonic value, so it is attributed to robots.<sup>33</sup> Due to later results, Sytsma rejected the hedonic view and proposed a so-called *naive* view, according to which laypeople perceive colors and pain as non-mental properties, properties of external objects (colors) and bodies (pain).<sup>34</sup> The color is within the object even if no one is looking, just as pain is in the damaged part of the body, even if it is not felt.<sup>35</sup>

These further investigations into the folk view about colors and pains clearly show that CXPhi research has inspired a wider range of research, not always directly related to how folk view consciousness. However, to investigate such different aspects one first has to reject the claim that laypeople possess the concept of PC, i.e., one has to accept the leading interpretation. But can we trust this interpretation?

### 3. The validity problem of CXPhi research

My view is that we should not trust the leading interpretation, as CXPhi studies lack validity.

By validity I mean a psychometric notion. It is “the degree to which evidence and theory support the interpretations of test scores for proposed uses of tests.”<sup>36</sup>

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<sup>31</sup> Some specified object (e.g. that the agent “located the green box”), while others did not (e.g., that the agent “saw green”).

<sup>32</sup> Sytsma (2014b).

<sup>33</sup> Sytsma, Machery (2010): 318–320.

<sup>34</sup> Sytsma (2010a, 2012).

<sup>35</sup> See also Reuter, Sienhold, Sytsma (2019); Reuter, Sytsma (2020), and for the alternative accounts of how laypeople view pain: Borg, Harrison, Stazicker et al. (2020); Liu (2020); Liu, Klein (2019).

<sup>36</sup> AERA, APA, NCME (2014): 11.

Historically, standards of thinking about validity have changed drastically,<sup>37</sup> but for my purposes here it is enough to acknowledge that validity concerns whether researchers are justified in interpreting the results they obtain in the way they do. The research *has* to be valid to be credible, it is a necessary criterium. In short, if research has problems with validity, its conclusions are not credible. It is not an aesthetic or optional feature of research, it is obligatory.

There are multiple sources of validity issues. One such example is the bad usage of statistics in either preparing experiments or analyzing data. Violating the assumptions of the statistical tests might create the impression (face validity) that results of the study can be generalized to the population when in fact the usage of appropriate statistical procedures would indicate that they cannot.<sup>38</sup>

Another source of validity problems has to do with the nature of theoretical constructs. Researchers do not measure them in the way one can measure an amount of water in a tank. To make inferences from what is observable (what is measured) to what is unobservable (theoretical posits) the unobservable has to be operationalized. Operationalization is the “translation” of theoretical constructs into something measurable by the research tool.<sup>39</sup> In fact, operationalization lies at the heart of validity. The validity of interpretation is doubtful if the design of the measurement tool does not exhaustively and unambiguously reflect the ways in which we expect the construct to manifest itself in the participant’s behavior.

In light of the hypotheses put forward by researchers, the operationalization needed in CXPhi should answer the following: “what indicators are there of having the concept of phenomenal consciousness?”<sup>40</sup> My objection is that the operationalization in question has not been exhaustive enough. As a consequence, this line of research contributes to our understanding of how laypeople attribute mental states, but it does not contribute to our understanding of the folk view about consciousness. To show that this is the case, I will start from the strategies of operationalizing the concept of PC and then move to the limitations of existing operationalizations in CXPhi.

What makes a mental state a *phenomenal* state according to philosophers? Take two seminal works discussing PC: a 1995 paper by Block<sup>41</sup> and a 1996 work by Chalmers.<sup>42</sup> Both philosophers list phenomenal states related to the senses (visual, auditory,

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<sup>37</sup> Newton, Shaw (2013) show how thinking about validity moved from picturing that there are many types of validity – view favored by Cronbach, Meehl (1955) – to advocating that the concept of validity is unitary but there are many aspects of validity (Messick 1989). There is an on-going discussion of how broadly should validity be defined (Newton, Shaw 2014: ch. 5 and 6). See also Hornowska (2007) and Taylor (2013).

<sup>38</sup> Taylor (2013): 14–16.

<sup>39</sup> Hornowska (2007): 160–162; Machery (2007): 63–64; Taylor (2013): 5–9 and ch. 5.

<sup>40</sup> “Our first hypothesis is that ordinary people (...) actually have a concept of phenomenal consciousness. (...) we hypothesize that people often make use of the concept of phenomenal consciousness when they are ascribing mental states” (Knobe, Prinz 2008: 68); Sytsma and Machery initially put their hypothesis as follow: “we first offer experimental support for the hypothesis that philosophers and ordinary people conceive of subjective experience in markedly different ways,” next they add “philosophers see subjective experience as (...) phenomenal” and that “the folk, by contrast, do not conceive of subjective experience this way” (Sytsma, Machery 2010: 299).

<sup>41</sup> Block (1995).

<sup>42</sup> Chalmers (1996).

olfactory, etc.), emotions, and bodily sensations. Block adds also “thoughts, desires” and, regarding thoughts being phenomenally conscious, speaks about mental images,<sup>43</sup> while Chalmers also lists thoughts and adds “the sense of self.”<sup>44</sup> What these mental states have in common, granted we are conscious when we have them, is that they have phenomenal properties, i.e., there is something it is like to be in these states.<sup>45</sup> The crucial consequence of such an account is that the phenomenality of a mental state is not entailed in a particular kind of modality<sup>46</sup> or the mental state having a hedonic value.<sup>47</sup> It is simply that all of these kinds of mental states that I just listed have graspable properties that point toward these states (that there is something it is like to be in them).

The concept of PC is widely known in the philosophy of mind, but how do we identify parts of texts that describe phenomenal states? Do we wait until the author explicitly states that she is writing about PC? We have to remember that language is the main – or the only – way to intersubjectively access PC. If we ask laypeople whether they would ascribe a mental state X to an agent, they find out about X due to our use of language. Scholars of consciousness identify X as a phenomenal state but it is unclear if they name X in a manner that would allow laypeople to identify X as a phenomenal state. The question, then, can be phrased like this: how can we describe a particular kind of mental state to point toward its phenomenal character? What is certainly not enough is for a scholar to play an authority that judges which everyday terms and phrases are semantically closest to the philosophical jargon. This matter is to be tackled empirically, not from the armchair.

I think there are two strategies that one can use to operationalize the concept of phenomenal consciousness using linguistic stimuli.<sup>48</sup> The first, (a), is to give participants a chance to notice that ‘the important part’ of what they read in the experiment is the phenomenal aspect of mental states. The advantage of (a) is that it is more direct in highlighting the phenomenality of conscious experience. If we test scholars of consciousness, then the procedure for (a) is straightforward: we inform scholars that we want them to focus on the phenomenality of mental states that they will read about. We can also refresh their memory and include a short description of what PC is. However, we are

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<sup>43</sup> Block (1995): 230, 245.

<sup>44</sup> Chalmers (1996): 6–10.

<sup>45</sup> “I look at a red apple, and visually experience its color. This experience instantiates a phenomenal quality R, which we might call phenomenal redness. (...) Phenomenal redness (a property of experiences, or of subjects of experience) is a different property from external redness (a property of external objects)” (Chalmers 2003: 135).

<sup>46</sup> Speaking about the phenomenology of cognition, grasping meaning of linguistic phrases, about the phenomenology of thinking was – for the most part – highly controversial in philosophy of mind. Often scholars tried to speak only about phenomenal mental states that relate to our senses or emotions (Klawiter 2012: 358–359). In recent years, this tendency to omit troublesome cognitive phenomenal mental states was noticed and the debate surrounding the so-called cognitive phenomenology gained much traction (Bayne, Montague 2011; Kriegel 2013; Mendelovici 2018).

<sup>47</sup> Cf. Robbins, Jack (2006).

<sup>48</sup> The idea that we can non-linguistically point to the phenomenality of conscious experience is worth exploring. Arguably we (scholars and laypeople) do attribute consciousness and conscious mental states to different agents on a daily basis, it seems likely that some attributions are in response to non-linguistic stimuli. But does the same apply for recognizing phenomenal states is unclear.



not testing scholars in the case of the obviousness claim, we are testing laypeople. Now using (a) strategy becomes a challenge as there is the aforementioned difficulty of how to suggest the phenomenality of consciousness without philosophical jargon and without introducing new concepts. Does the description “when you hear your favorite music, its melody makes you feel joy” suggest the phenomenality of conscious hearing experience or does it only point toward properties of the musical stimulus and the bodily reaction evoked (increased heart rate, foot-stomping)? As of today, we have no data indicating which terms and phrases that are used to describe consciousness in the philosophy of consciousness are also used in everyday language to describe consciousness.<sup>49</sup> This is a large pool of data that would need to be analyzed, but the main issue is how to point to the phenomenality without *teaching* about phenomenality. To use the (a) strategy, then, we do not only have to make this kind of suggestive and – at the same time – everyday description of consciousness, but also figure out how to prepare such description. The latter is a step to be completed before we can use (a) to test the folk view about consciousness. Since we do not possess such a method as yet, using (a) remains problematic.

Unsurprisingly, therefore, the (a) strategy was not used in CXPhi. Researchers did not try to directly point to the phenomenality of mental states that they described in experiments while resisting from using the philosophical jargon and introducing new terms. They also did not try to empirically establish a method of describing the phenomenality of consciousness without the jargon. Due to the difficulties in using (a), I will focus on strategy (b).

The second strategy of operationalization, (b), is to design multiple conditions covering all types of mental states that according to philosophers exhibit phenomenal properties, as well as cases of those mental states that are not phenomenal. In the case of seeing, hearing, smelling, thinking, imagining, pain, and so on, we should expect participants to attribute all such types of ‘phenomenal’ mental states in the same conditions as philosophers of consciousness would if they were asked to attribute phenomenal mental states. The reasoning behind (b) is as follows: it is not enough to show that laypeople attribute one or two kinds of mental states the way philosophers do, to make a claim about whether laypeople recognize a whole range of mental states based on their shared property (in this case: having phenomenal properties). We need to show that laypeople consistently attribute all relevant types of mental states in the way philosophers do. To further reduce the probability that something other than the recognition of phenomenality drives laypeople’s attributions, they should also attribute those states that philosophers do not identify as phenomenal.

I will start by clarifying the (b) strategy with a comparison: it is similar to the definition-by-example approach to defining PC. “The best one can do for P-consciousness is (...) *point* to the phenomenon.”<sup>50</sup> A basic criterium of such definition is for it to include *all* relevant kinds of positive examples, that is all kinds of the phenomenon’s occurrences. A good definition, by example, should also include negative examples, i.e., those cases in which the phenomenon does not occur but that are otherwise similar to

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<sup>49</sup> We thus lack empirical data on the pragmatics of these words in the ordinary language.

<sup>50</sup> Block (1995): 230.

the positive example cases.<sup>51</sup> In the case discussed here, we would have to refer to all kinds of phenomenal mental states (positive examples) and those aspects of cognition that, while not phenomenal, are nevertheless mental. Using (b), therefore, would mean focusing on establishing whether laypeople attribute all kinds of positive examples like philosophers do and establishing whether they, laypeople, do not recognize the negative examples as phenomenal.

Implementing (b) relies heavily on having adequate vignettes, of which we need two kinds: (1) about agents to which scholars would (in the situation depicted in the vignette) attribute phenomenal mental states; (2) about agents to which scholars would not attribute phenomenal but non-phenomenal mental states. To know which phenomenal and non-phenomenal mental states should be included, we can refer to what is being discussed in the philosophy of consciousness. As to the phenomenal states, then, we should not only include perceptual and bodily states, but also thoughts, the sense of self, and so on. As to the non-phenomenal states, we should refer to those states and situations that are explicitly invoked as instances of non-phenomenal mental activities in the literature.<sup>52</sup> A set of both types of vignettes should be prepared and distributed among laypeople and the set can be prepared either with the help of a pilot study<sup>53</sup> or, more modestly, with educated guesses as to when an average scholar of consciousness would attribute phenomenal mental states and when she would not. This, in short, is the exhaustive design with which it is possible to test if laypeople recognize the phenomenality of conscious experience. The answer will be “yes” only if they attribute mental states after (1) kind of vignettes and only attribute non-phenomenal states in the case of (2) kind of vignettes.

Now, I think that (b), while burdensome, is also quite simple to implement. However, one might have doubts regarding (b) and how it can secure the validity of research better than earlier studies. I will now respond to them and argue why a partial (b) implementation in CXPhi research was not enough.

The first worry is that (b) seems at odds with a rather standard methodological practice of investigating each of the multifaceted phenomenon’s aspects separately.<sup>54</sup> A good example here is intelligence. We have successfully investigated different aspects of intelligence such as spatial or verbal intelligence, can we not do the same for PC or, even, perhaps this is the only way to investigate PC due to its being a multifaceted phenomenon?

First, the above description of how (b) implementation could look like seems perfectly doable, so even if we could focus on some aspect of PC, it does not follow that we

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<sup>51</sup> Schwitzgebel (2016).

<sup>52</sup> Schwitzgebel discusses cases of mental dispositions, visual stimuli that are presented too quickly for us to be phenomenally conscious of them, and so on (2016). See also Block (1995); Chalmers (1996): 199; Searle (1992); Siewert (1998): ch. 3.

<sup>53</sup> In such a pilot study, scholars of consciousness would read vignette-candidates of both kinds. The important part here is to make sure (e.g., by asking) that scholars are reading the vignettes and instructions as intended, i.e., that after reading vignette of (1) kind they attribute a state because they identify it as phenomenal, and that after reading vignette of (2) kind that they attribute a state because they do not identify it as phenomenal.

<sup>54</sup> I am grateful to an anonymous reviewer for this point.

cannot study the whole phenomenon. Second, there are differences between investigating how laypeople view consciousness and the study of intelligence. The most basic one is that CXPhi researchers do not measure indicators of having PC but indicators of having the concept of PC. The research on different forms or aspects of intelligence focuses on measuring these forms or aspects, not participants' concept(s) of intelligence. While the study of verbal, spatial, and other forms of intelligence deepens our understanding of the human mind, it is within our reach to investigate whether laypeople possess a single concept of intelligence (of our choice), even if we consider intelligence a multifaceted phenomenon.<sup>55</sup>

But perhaps it would suffice if we investigated the concepts of different aspects of PC? I do not find PC to be a necessarily multifaceted phenomenon in its own right but let us assume that it is.<sup>56</sup> The following is unclear: what are the aspects of PC and which of them should we investigate to determine whether laypeople possess the concept of PC. Now, if by 'aspects' we mean things like qualitative character, for-me-ness, or mine-ness,<sup>57</sup> among others, then I find operationalizing concepts of these aspects more challenging, if not straightforward impossible, than operationalizing the concept of PC with strategy (b). Take for-me-ness. Zahavi and Kriegel argue that for-me-ness is not just conscious experience having the subject as it is "more than that it [experience] is in me. It is (...) not only a metaphysical fact, but also a phenomenological fact."<sup>58</sup> To operationalize the concept of for-me-ness, then, we need to operationalize that each conscious person has phenomenal life, i.e., we have to operationalize PC.

Let us consider another objection towards (b): assume that laypeople do possess the concept of PC. A skeptic then might argue that experimentally exhausting this concept does not guarantee that lay participants will shift their attention to the phenomenality of mental states that they should attribute in the experiment. I agree, after all we do not deal with guarantees in the empirical sciences. However, the skeptic makes two lapses in judgment. First, if exhausting the types of phenomenal mental states in the experiment is not good enough to be reasonably confident that the results are indicative of whether laypeople view consciousness phenomenally or not, then not exhausting these types is wrong to an even higher degree. In consequence, my validity objection against the leading interpretation of CXPhi results is not rejected at all. Second, the skeptic does not appreciate the difference between an unsuccessful and successful operationalization. The latter is the one that gives our research validity and, as stated beforehand, research yields no credible outcomes if we doubt its validity. If we test the obviousness claim by only selecting seeing red and feeling pain states to our experiment, we omit everything else that is shared by these states other than the alleged phenomenality. Both of these

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<sup>55</sup> For difficulties in studying intelligence see Kornhaber (2020); Kovacs, Conway (2019); Walrath, Willis, Dumont (2020).

<sup>56</sup> We often view PC as a property (Kriegel 2006: 58) thanks to which mental states are conscious, in the most basic sense of "consciousness" (Klawiter 2012). All conscious experiences are phenomenal in the same way: they exhibit phenomenal properties. As I understand it, there are no different kinds of phenomenality of conscious experience, there are different kinds of mental states that possess phenomenal properties.

<sup>57</sup> Howell, Thompson (2017); Zahavi, Kriegel (2016).

<sup>58</sup> Zahavi, Kriegel (2016): 36.

states involve information potentially relevant for survival, both are automatic (we do not have to make a conscious effort to see red when our eyes fix on red objects as we do not have to make a conscious effort to feel pain when our bodily tissue is damaged), that the information they provide us with is information about the external world (objects and physical body), and so on. Why are these features of these two types of mental states irrelevant, but the phenomenality is relevant? What broadening the selection of types of mental states for experiments does is it makes the number of properties that connect all of these types smaller, thus increasing the likeliness that participants' responses inform us about whether they view consciousness as phenomenal.

Now, the (b) strategy has been used in CXPhi, albeit only partially. We can see that in Table 1, which presents how exhaustive the CXPhi research was when it comes to including the necessary positive examples of mental states that philosophers classify as phenomenal.<sup>59</sup> It turns out it was never exhaustive: (a) not in any specific study that was reported (upper indexes), (b) nor in any paper, granted we amalgamate conditions from all studies reported in a single paper as one big study ("+" signs). The operationalization of the concept of PC cannot, therefore, be considered successful.

	Type of mental state				
	Bod.	Emot.	Perc.	Imag.	Other
Knobe, Prinz (2008) [4]	+ <sup>2</sup>	+ <sup>4</sup>	–	+ <sup>1</sup>	–
Sytsma, Machery (2009) [3]	+ <sup>1</sup>	+ <sup>3</sup>	–	+ <sup>1</sup>	–
Arico (2010) [1]	+ <sup>1</sup>	+ <sup>1</sup>	–	+ <sup>1</sup>	–
Huebner, Bruno, Sarkissian (2010) [1]	–	+ <sup>1</sup>	–	+ <sup>1</sup>	–
Huebner (2010) [2]	+ <sup>1</sup>	+ <sup>1</sup>	–	–	–
Sytsma, Machery (2010) [3]	+ <sup>1</sup>	+ <sup>1</sup>	+ <sup>3</sup>	–	–
Arico, Fiala, Goldberg et al. (2011) [1]	+ <sup>1</sup>	+ <sup>1</sup>	–	–	–
Sytsma, Machery (2012) [3]	+ <sup>3</sup>	–	+ <sup>3</sup>	–	–
Sytsma (2012) [4]	+ <sup>1</sup>	–	+ <sup>3</sup>	–	–
Phelan, Arico, Nichols (2013) [3]	+ <sup>1</sup>	+ <sup>3</sup>	–	–	–
Buckwalter, Phelan (2013) [2]	–	+ <sup>1</sup>	+ <sup>1</sup>	–	–
Fiala, Arico, Nichols (2014) [2]	–	–	+ <sup>2</sup>	–	–
Sytsma (2014b) [5]	–	–	+ <sup>5</sup>	–	–
Buckwalter, Phelan (2014) [5]	–	+ <sup>5</sup>	–	–	–
Sytsma, Ozdemir (2019) [1]	+ <sup>1</sup>	–	+ <sup>1</sup>	–	–
Díaz (2021) [4]	+ <sup>4</sup>	–	–	–	–

Table 1 – Types of mental states used in CXPhi studies. The number of experiments reported in each paper is provided in square brackets. „Bod.” – bodily; „Emot.” – emotional; „Perc.” – perceptual; „Imag.” – imagination; „Other” – other (e.g., thoughts, the sense of self). If a paper reported studies with given mental states, then such paper is labeled with a „+” sign. If not, then it is labeled with “–”. The total number of studies that involved a given mental state that was reported in each paper is given in superscript.

<sup>59</sup> I did not include Peressini (2014) study as it was the only one in which participants learned what “experiencers” are before they filled out the questionnaire.

Let us try to defend the CXPhi operationalization and look at the strategy (b) once more with suspicion. Shouldn't the phenomenality of some conscious mental states be so obvious and uncontroversial for laypeople that they would identify these states as phenomenal as soon as they read about them? Should we not expect that if they do have the concept of PC, they will recognize the phenomenality of mental states, even if we execute (b) only partially?

There are two drawbacks of such an approach. First, partial (b) does not allow us to test whether there is the folk concept of PC. What it does allow, perhaps, is to test whether there are specific folk phenomenal concepts.<sup>60</sup> This was the argument that Chalmers put forward against SO: even if SO results indicate that laypeople do not have a unitary concept of PC, they may still have multiple different phenomenal concepts regarding different phenomenal mental states.<sup>61</sup> However, while Chalmers is interested in the meta-problem, I am interested in the obviousness claim. For the latter it is paramount that the folk view about consciousness is similar to how PC is understood in philosophy. Just as quotes from this paper's first section indicate, it is the overall phenomenality of experience that is supposedly obvious, graspable for laypeople, not the phenomenality of a specific, chosen kind of mental state. We should, then, empirically establish whether laypeople do have the concept of consciousness similar to that of the philosophical concept of PC, i.e., whether there is the folk concept of PC, and not whether they have phenomenal concepts. The latter is also an intriguing issue, but a fundamentally *different* one.

The second drawback of partial (b) is the assumption that there are uncontroversial examples of mental states that are classified as phenomenal.<sup>62</sup> We make this assumption when we expect that phrases like "seeing red," "feeling pain," or even "experiencing red" will elicit – in participants – thinking about the phenomenal properties of corresponding mental states. To put it differently, in partial (b) researchers see the (a) strategy: they give an adequate opportunity for participants to recognize the phenomenality of mental states because the phrases with which researchers described these states so obviously point towards this phenomenality. However, with this assumption researchers conflate their own preconception of what kind of intuitions these phrases elicit with the unknown intuitions of laypeople they want to investigate.

This issue is related to the ambiguity objection I mentioned earlier. The objection was that SM results can be explained by participants being ambiguous about the experimental task. Participants could interpret the question about attributing "seeing red" to either human or robot agents as a question about these agents being able to access information about the perceived object's color, not as a question about the phenomenal state. Thus, even if laypeople responded differently than philosophers, they may still have the concept of PC, they just focused on different aspects of mental states during the experiment.

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<sup>60</sup> To investigate whether laypeople possess specific phenomenal concepts one would have to overcome the difficulty I already mentioned, regarding properties other than the alleged phenomenality that are shared by mental states selected for the experiment.

<sup>61</sup> Chalmers (2020): 239–241.

<sup>62</sup> Arico, Fiala, Goldberg et al. (2011): 337; Sytsma, Machery (2010): 301–302; Sytsma, Ozdemir (2019): 244.

The impression that the ambiguity objection is baseless might be strong, after all the negative answer to the question about the folk concept of PC is based on a relatively high number of experiments, including their replications and additional conditions.<sup>63</sup> As I mentioned earlier, I do not find these additional conditions exhaustive enough, but also the drawback I refer to here is not just that participants could understand the experimental task differently than researchers expected. Philosophers should provide a good justification for viewing the mental state of seeing red as a less controversial and as an indubitable example of a phenomenal state than other kinds of conscious mental states. Visual perception and pain states for philosophers may be frequent examples of phenomenal states because they are easy to picture, we all know what it is like to be in those states. But pictoriality and popularity are not criteria for the indubitable character. To illustrate this, let us look more closely at the phrase “seeing red”. To what sort of state does it refer? Without additional details we do not know whether it refers to a phenomenal state. A philosopher has to state that she writes about PC. Apart from making an explicit statement, we often rely on philosophical practice (not knowing whether there is a similar ordinary practice), according to which mental states that are called “seeing red” are often used as examples of phenomenal states. By relying on what is conventional in philosophy, we omit a rather troublesome question: is perception always (phenomenally) conscious? Are we (phenomenally) conscious of every emotional state in every moment when we, our bodies, undergo it? These are issues that are not settled, neither theoretically nor empirically.<sup>64</sup> There is also substantial evidence that philosophers suffer from salience bias: they make inferences based on a word’s more dominant meaning, not on the specific meaning that was used.<sup>65</sup> Thus, to take a stance like “X is an uncontroversial example of phenomenal mental state” one should not rely on the philosophical convention alone, one should provide an additional justification.

The canonical phenomenal states do not need to be named with the same words in folk psychology as are they named in the philosophy of consciousness (modulo philosophical jargon). Perhaps some researchers assume that the vocabulary of philosophy of consciousness partly *is* ordinary vocabulary, i.e., that while doing philosophy, philosophers of consciousness are using ordinary meanings and folk psychology. However, such an assumption is controversial<sup>66</sup> and the whole reasoning behind it is circular. The assumption undermines the point of studying the folk view about consciousness. If we begin by assuming how certain phrases about X are used, and what we measure are instances of how these phrases are used, then we beg the question as we already assumed the answer.

A partial (b) strategy might seem more convincing because it corresponds well to how we often deal with concepts. Consider the concept of a mammal.<sup>67</sup> It is easy to

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<sup>63</sup> Cf. Sytsma (2018).

<sup>64</sup> Berger, Mylopoulos (2019); LeDoux (2020); Peters, Kentridge, Phillips et al. (2017); Schubert, Rothlein, Brothers (2020); Winkielman, Berridge (2004).

<sup>65</sup> Fischer, Engelhardt, Horvath (2021).

<sup>66</sup> For instance, scholars disagree whether the meaning of “what it is like” phrase is ordinary or not: Farrell (2016); Gaskin (2019); Stoljar (2016).

<sup>67</sup> I am thankful to an anonymous reviewer for this example.

show that someone does not have this concept, e.g., when one would state that an apple is a mammal. After providing just few correct examples, we would also be satisfied that someone knows what a mammal is. However, talking about mammals is strikingly different from talking about phenomenal consciousness. Plausibly, the expert concept of mammal is to some extent distinct from the folk one: I doubt if zoologists claim that their expert concept of mammal is a folk concept. Contrary to that, scholars of consciousness often claim that their concept of PC is ordinary – the obviousness claim was the initial motivation for much of the CXPhi research I reviewed earlier. Two key differences make operationalizing the concept of PC more difficult than concepts such as the concept of mammal. First, we can explicitly ask a layperson about “mammal”, but we cannot (reasonably) explicitly ask about “phenomenal consciousness.” If we want a more comparable case, we need to let go of the “mammal” term and focus on relevant examples, covering distinct types or classification subtleties of mammals. Second, we can often make our language more precise, which eases the acquisition of new concepts. We can make the vocabulary we use to classify animals more precise with ostension, by pointing out relevant animals in the world. However, we cannot do that with the language with which we express our folk psychology, including vocabulary referring to concepts of consciousness.

To sum up, due to the challenge in using (a), using (b) with laypeople is more appropriate, and indeed this is the approach that researchers tried to implement. Only (a) is tried, as partial (b) is not enough to make claims about the obviousness claim. To infer about having this concept, we need to include all types of phenomenal mental states in our experimental design. If we limit ourselves to only a few states, then we make numerous lapses in judgment. We omit everything else other than the alleged phenomenality that these states have in common and that can explain how laypeople attribute these states. We make unjustified assumptions as to the existence of uncontroversial examples of mental states and about ordinary language.<sup>68</sup> Now, arguably, not every partial (b) strategy is the same. A version that omits only one kind of phenomenal state is perhaps better than one that includes only one type of phenomenal state, better in the sense of incremental progress. However, while it is true that scientific progress is often

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<sup>68</sup> I have only discussed the problem with operationalization, but there are more validity issues in CXPhi research. All CXPhi studies, as well as much of psychological research, are victims of the *psychometricians’ fallacy* (Michell 2009): researchers have been analyzing ordinal data using parametric methods, even though they know that such practice violates the assumptions of the statistical tests they use (Sytsma, Livengood 2015b: 185, 228, 291). There are some arguments that indicate one can analyze ordinal data using parametric methods as long as one uses Likert scales. But CXPhi researchers did not use Likert scales, they used Likert items. See the risks involved in committing the psychometricians’ fallacy: Göb, McCollin, Ramalhoto (2007); Liddell, Kruschke (2018); Michell (2009); Stevens (1946); the arguments defending parametric analysis of Likert scale data: De Winter, Dodou (2010); Murray (2013); Norman (2010); and differences between Likert scale and item: Carifio, Perla (2008, 2007). Another practice that raises validity concerns is collecting data from small samples. Only in some CXPhi studies enough participants were involved to call these studies powerful in terms of detectable effect size (e.g., the first 2010 study by SM, study by SO). In the remaining cases the number of participants was too low even for the parametric tests and large expected effect sizes (e.g., some of the studies reported in Buckwalter, Phelan 2014; all studies reported by Fiala, Arico, Nichols 2014; Knobe, Prinz 2008). See also Faul, Erdfelder, Lang (2007); Lakens (2014).

gradual, such a “better” is not satisfying in the context of PC. Referring to phenomenal consciousness should not be taken lightly, even though – as I argued throughout this section – so far it had. Due to the discussed issues, the leading interpretation of CXPhi results is not justified.

#### 4. The openness of the obviousness of phenomenal consciousness’ question

The proponents of the obviousness claim should provide reasons why the claim should be accepted. The absence of such reasons in the philosophical reflection about consciousness is rightly investigated by CXPhi researchers. Nevertheless, the strategy these researchers use to operationalize the concept of PC is insufficient for there to be no doubt as to *what* was being measured in their experiments. The CXPhi has not provided convincing evidence that laypeople do not recognize the phenomenality of conscious experience and, as a consequence, the question posed in the title of this article remains open.

Naturally, as a field CXPhi has its advantages. We expand our knowledge about how laypeople use those words that philosophers think refer to consciousness. Folk psychology – or the perception of other agents’ minds – remains a phenomenon that we know relatively little about, so it is worth exploring and especially if that exploration is not limited to the study of how intentional states are attributed to other people.<sup>69</sup>

Due to the validity problem, the leading interpretation of CXPhi results is not justified and that by itself creates a need for further research. In conclusion, I would like to point out one more benefit for the science of consciousness that can come from testing the obviousness claim. Perhaps it will convince those researchers that were previously skeptical as to whether there is the folk concept of PC. If it is vital for our research that participants are conscious of content X, then we need to be able to find out whether they are consciously experiencing X. Such a possibility is doubtful if we do not know how our understanding of terms that participants use in their verbal reports is similar to the understanding of laypeople. The trust that is at play here works in two ways, as we also want to be assured that participants understand the experimental instructions in the way intended by the researchers. If such instructions contain terms and phrases that according to us – experts – describe consciousness, then we need reliable evidence that participants think so as well.

Reliability is not a guarantee but then we do not have guarantees in the empirical sciences but rather seek and trust reliable findings. Seeking empirical evidence for philosophical claims is not fruitless: we can take a shot at claims made about the folk view of consciousness and I tried to show how to take it. If laypeople recognize the phenomenality of experience, then I expect we are able to detect this with the same confidence as we have done with many other psychological phenomena, namely by making inferences based on behavior. The behavior here is linguistic: we recognize that a scholar is talking about the phenomenality of experience due to how she is describing consciousness. In the case of laypeople, we just need to be extra careful, being sensitive to the differences in how the words and phrases utilized in philosophy are used in everyday language.

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<sup>69</sup> Gray, Gray, Wegner (2007); Nummenmaa, Hari, Hietanen et al. (2018); Volynets, Glerean, Hietanen et al. (2020); Weisman, Dweck, Markman (2017).



## References

- Alexander J., Mallon R., Weinberg J.M. (2010), "Accentuate the Negative," *Review of Philosophy and Psychology* 1 (2): 297–314.
- American Educational Research Association, American Psychological Association, National Council on Measurement in Education (eds.) (2014), *Standards for Educational and Psychological Testing*, American Educational Research Association, Lanham.
- Arico A. (2010), "Folk Psychology, Consciousness, and Context Effects," *Review of Philosophy and Psychology* 1 (3): 371–393.
- Arico A., Fiala B., Goldberg R.F. et al. (2011), "The Folk Psychology of Consciousness," *Mind and Language* 26 (3): 327–352.
- Bayne T., Montague M. (eds.) (2011), *Cognitive Phenomenology*, Oxford University Press, New York.
- Berger J., Mylopoulos M. (2019), "On Skepticism about Unconscious Perception," *Journal of Consciousness Studies* 26 (11–12): 8–32.
- Bickle J. (2019), "Lessons for Experimental Philosophy From the Rise and 'Fall' of Neurophilosophy," *Philosophical Psychology* 32 (1): 1–22.
- Block N. (1995), "On a Confusion about a Function of Consciousness," *Behavioral and Brain Sciences* 18 (2): 227–247.
- Borg E., Harrison R., Stazicker J. et al. (2020), "Is the Folk Concept of Pain Polyeidic?," *Mind and Language* 35 (1): 29–47.
- Buckwalter W., Phelan M. (2013), "Function and Feeling Machines: A Defense of the Philosophical Conception of Subjective Experience," *Philosophical Studies* 166 (2): 349–361.
- Buckwalter W., Phelan M. (2014), "Phenomenal Consciousness Disembodied," [in:] *Advances in Experimental Philosophy of Mind*, J. Sytsma (ed.), Bloomsbury, London: 45–73.
- Carifio J., Perla R.J. (2008), "Resolving the 50-Year Debate Around Using and Misusing Likert Scales," *Medical Education* 42 (12): 1150–1152.
- Carifio J., Perla R.J. (2007), "Ten Common Misunderstandings, Misconceptions, Persistent Myths and Urban Legends about Likert Scales and Likert Response Formats and their Antidotes," *Journal of Social Sciences* 3 (3): 106–116.
- Chalmers D.J. (1996), *The Conscious Mind. In Search of a Fundamental Theory*, Oxford University Press, New York.
- Chalmers D.J. (2003), "Consciousness and its Place in Nature," [in:] *The Blackwell Guide to Philosophy of Mind*, S.P. Stich, T.A. Warfield (eds.), Blackwell Publishing, Oxford: 102–142.
- Chalmers D.J. (2018), "The Meta-Problem of Consciousness," *Journal of Consciousness Studies* 25 (9–10): 6–61.
- Chalmers D.J. (2020), "Is the Hard Problem of Consciousness Universal?," *Journal of Consciousness Studies* 27 (5–6): 227–257.
- Cova F., Strickland B., Abatista A. et al. (2021), "Estimating the Reproducibility of Experimental Philosophy," *Review of Philosophy and Psychology* 12 (1): 9–44.
- Crane T. (2000), "The Origins of Qualia," [in:] *History of the Mind-Body Problem*, T. Crane, S. Patterson (eds.), Routledge, London: 177–202.
- Cronbach L.J., Meehl P.E. (1955), "Construct Validity in Psychological Tests," *Psychological Bulletin* 52: 281–302.
- De Winter J.C.F., Dodou D. (2010), "Five-Point Likert Items: T Test Versus Mann-Whitney-Wilcoxon," *Practical Assessment, Research & Evaluation* 15 (11): 1–16.

- Díaz R. (2021), "Do People Think Consciousness Poses a Hard Problem? Empirical Evidence on the Meta-Problem Of Consciousness," *Journal of Consciousness Studies* 28 (2-4): 55-75.
- Farrell J. (2016), "'What it is Like' Talk is not Technical Talk," *Journal of Consciousness Studies* 23 (9-10): 50-65.
- Faul F., Erdfelder E., Lang A.G. et al. (2007), "G\*Power 3: A Flexible Statistical Power Analysis Program for the Social, Behavioral, and Biomedical Sciences," *Behavior Research Methods* 39 (2): 175-191.
- Fiala B., Arico A., Nichols S. (2014), "You, Robot," [in:] *Current Controversies in Experimental Philosophy*, E. Machery, E. O'Neill (eds.), Routledge, New York: 31-47.
- Fischer E., Curtis M. (eds.) (2019), *Methodological Advances in Experimental Philosophy*, Bloomsbury, London.
- Fischer E., Engelhardt P.E., Horvath J. et al. (2021), "Experimental Ordinary Language Philosophy: A Cross-Linguistic Study of Defeasible Default Inferences," *Synthese* 198 (2): 1029-1070.
- Gaskin R. (2019), "A Defence of the Resemblance Meaning of 'What it's like'," *Mind* 128 (511): 673-698.
- Göb R., McCollin C., Ramalhoto M.F. (2007), "Ordinal Methodology in the Analysis of Likert Scales," *Quality and Quantity* 41 (5): 601-626.
- Goff P. (2017), *Consciousness and Fundamental Reality*, Oxford University Press, Oxford.
- Gonnerman C. (2018), "Consciousness and Experimental Philosophy," [in:] *The Routledge Handbook of Consciousness*, R.J. Gennaro (ed.), Routledge, New York: 463-476.
- Gray H.M., Gray K., Wegner D.M. (2007), "Dimensions of Mind Perception," *Science* 315 (5812): 619.
- Hornowska E. (2007), *Testy diagnostyczne. Teoria i praktyka*, Wydawnictwo Naukowe Scholar, Warszawa.
- Howell R.J., Thompson B. (2017), "Phenomenally Mine: In Search of the Subjective Character of Consciousness," *Review of Philosophy and Psychology* 8 (1): 103-127.
- Huebner B. (2010), "Commonsense Concepts of Phenomenal Consciousness: Does Anyone Care about Functional Zombies?," *Phenomenology and the Cognitive Sciences* 9 (1): 133-155.
- Huebner B., Bruno M., Sarkissian H. (2010), "What Does the Nation of China Think About Phenomenal States?," *Review of Philosophy and Psychology* 1 (2): 225-243.
- Humphrey N. (2006), *Seeing Red*, The Belknap Press of Harvard University Press, Cambridge, Massachusetts.
- Keeley B.L. (2009), "The Early History of the Quale and Its Relation to the Senses," [in:] *The Routledge Companion to Philosophy of Psychology*, J. Symons, P. Calvo (eds.), Routledge, London: 71-89.
- Klawiter A. (2012), "Świadomość. Wprowadzenie do współczesnych dyskusji," [in:] *Przewodnik po filozofii umysłu*, M. Miłkowski, R. Poczobut (eds.), Wydawnictwo WAM, Kraków: 353-394.
- Knobe J. (2016), "Experimental Philosophy is Cognitive Science," [in:] *A Companion to Experimental Philosophy*, J. Sytsma, W. Buckwalter (eds.), John Wiley & Sons, Chichester: 37-52.
- Knobe J., Prinz J. (2008), "Intuitions about Consciousness: Experimental Studies," *Phenomenology and the Cognitive Sciences* 7 (1): 67-83.
- Koch C. (2019), *The Feeling of Life Itself. Why Consciousness is Everywhere But Can't Be Computed*, The MIT Press, Cambridge, Massachusetts.

- Kornhaber M.L. (2020), "The Theory of Multiple Intelligences," [in:] *The Cambridge Handbook of Intelligence*, R.J. Sternberg (ed.), Cambridge University Press, Cambridge: 659–678.
- Kovacs K., Conway A.R.A. (2019), "What Is IQ? Life Beyond 'General Intelligence'," *Current Directions in Psychological Science* 28 (2): 189–194.
- Kriegel U. (2006), "Consciousness, Theories of," *Philosophy Compass* 1 (1): 58–64.
- Kriegel U. (ed.) (2013), *Phenomenal Intentionality*, Oxford University Press, New York.
- Kuś K., Maćkiewicz B. (2016), "Z rozmysłem, ale nie specjalnie. O językowej wrażliwości filozofii eksperymentalnej," *Filozofia Nauki* 3 (95): 169–178.
- Lakens D. (2014), "Performing High-Powered Studies Efficiently with Sequential Analyses," *European Journal of Social Psychology* 44 (7): 701–710.
- LeDoux J.E. (2020), "How does the Non-Conscious Become Conscious?," *Current Biology* 30 (5): R196–R199.
- Liddell T.M., Kruschke J.K. (2018), "Analyzing Ordinal Data with Metric Models: What Could Possibly Go Wrong?," *Journal of Experimental Social Psychology* 79: 328–348.
- Liu M. (2020), "The Intuitive Invalidity of the Pain-In-Mouth Argument," *Analysis* 80 (3): 463–474.
- Liu M., Klein C. (2019), "Pain and Spatial Inclusion: Evidence from Mandarin," *Analysis* 80 (2): 262–272.
- Machery E. (2007), "100 Years of Psychology of Concepts: The Theoretical Notion of Concept and Its Operationalization," *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 38 (1): 63–84.
- Mendelovici A. (2018), *The Phenomenal Basis of Intentionality*, Oxford University Press, New York.
- Messick S. (1989), "Meaning and Values in Test Validation: The Science and Ethics of Assessment," *Educational Researcher* 18 (2): 5–11.
- Michell J. (2009), "The Psychometricians' Fallacy: Too Clever by Half?," *British Journal of Mathematical and Statistical Psychology* 62 (1): 41–55.
- Murray J. (2013), "Likert Data: What to Use, Parametric or Non-Parametric?," *International Journal of Business and Social Science* 4 (11): 258–265.
- Nadelhoffer T., Nahmias E. (2007), "The Past and Future of Experimental Philosophy," *Philosophical Explorations* 10 (2): 123–149.
- Newton P.E., Shaw S.D. (2013), "Standards for Talking and Thinking about Validity," *Psychological Methods* 18 (3): 301–319.
- Newton P.E., Shaw S.D. (2014), *Validity in Educational & Psychological Assessment*, Sage Publications, London.
- Norman G. (2010), "Likert Scales, Levels of Measurement and the 'Laws' of Statistics," *Advances in Health Sciences Education: Theory and Practice* 15 (5): 625–632.
- Nummenmaa L., Hari R., Hietanen J.K. et al. (2018), "Maps of Subjective Feelings," *Proceedings of the National Academy of Sciences* 115 (37): 9198–9203.
- Peters M.A.K., Kentridge R.W., Phillips I. et al. (2017), "Does Unconscious Perception Really Exist? Continuing the ASSC20 Debate," *Neuroscience of Consciousness* 3 (1): 1–11.
- Phelan M., Arico A., Nichols S. (2013), "Thinking Things and Feeling Things: On an Alleged Discontinuity in Folk Metaphysics of Mind," *Phenomenology and the Cognitive Sciences* 12 (4): 703–725.
- Reuter K., Sienhold M., Sytsma J. (2019), "Putting Pain in its Proper Place," *Analysis* 79 (1): 72–82.
- Reuter K., Sytsma J. (2020), "Unfelt Pain," *Synthese* 197 (4): 1777–1801.

- Robbins P., Jack A.I. (2006), "The Phenomenal Stance," *Philosophical Studies* 3 (3): 59–85.
- Rose D., Danks D. (2013), "In Defense of a Broad Conception of Experimental Philosophy," *Metaphilosophy* 44 (4): 512–532.
- Schubert T.M., Rothlein D., Brothers T. et al. (2020), "Lack of Awareness Despite Complex Visual Processing: Evidence from Event-Related Potentials in a Case of Selective Metamorphopsia," *Proceedings of the National Academy of Sciences of the United States of America* 117 (27): 16055–16064.
- Schwitzgebel E. (2016), "Phenomenal Consciousness, Defined and Defended as Innocently as I Can Manage," *Journal of Consciousness Studies* 23 (11–12): 224–235.
- Searle J. (1992), *The Rediscovery of the Mind*, The MIT Press, Cambridge, Massachusetts.
- Siewert C.P. (1998), *The Significance of Consciousness*, Princeton University Press, Princeton.
- Stevens S.S. (1946), "On the Theory of Scales of Measurement," *Science* 103 (2684): 677–680.
- Stoljar D. (2006), *Ignorance and Imagination: The Epistemic Origin of the Problem of Consciousness*, Oxford University Press, New York.
- Stoljar D. (2016), "The Semantics of 'What it's Like' and the Nature of Consciousness," *Mind* 125 (500): 1161–1197.
- Stuart M.T., Colaço D., Machery E. (2019), "P-Curving X-Phi: Does Experimental Philosophy have Evidential Value?," *Analysis* 79 (4): 669–684.
- Sytsma J. (2009), "Phenomenological Obviousness and the New Science of Consciousness," *Philosophy of Science* 76 (5): 958–969.
- Sytsma J. (2010a), "Dennett's Theory of the Folk Theory of Consciousness," *Journal of Consciousness Studies* 17(3–4): 107–130.
- Sytsma J. (2010b), "Folk Psychology and Phenomenal Consciousness," *Philosophy Compass* 5 (8): 700–711.
- Sytsma J. (2012), "Revisiting the Valence Account," *Philosophical Topics* 40 (2): 179–198.
- Sytsma J. (2014a), "Attributions of Consciousness," *Wiley Interdisciplinary Reviews: Cognitive Science* 5 (6): 635–648.
- Sytsma J. (2014b), "The Robots of the Dawn of Experimental Philosophy of Mind," [in:] *Current Controversies in Experimental Philosophy*, E. Machery, E. O'Neill (eds.), Routledge, New York: 48–64.
- Sytsma J. (2018), "Experiencers and the Ambiguity Objection," URL = <http://philsci-archive.pitt.edu/15481/> [Accessed 25.03.2022].
- Sytsma J., Livengood J. (2015a), "The New Experimental Philosophy," [in:] idem, *The Theory and Practice of Experimental Philosophy*, Broadview Press, Peterborough: 3–19.
- Sytsma J., Livengood J. (2015b), *The Theory and Practice of Experimental Philosophy*, Broadview Press, Peterborough.
- Sytsma J., Machery E. (2009), "How to Study Folk Intuitions about Phenomenal Consciousness," *Philosophical Psychology* 22 (1): 21–35.
- Sytsma J., Machery E. (2010), "Two Conceptions of Subjective Experience," *Philosophical Studies* 151 (2): 299–327.
- Sytsma J., Machery E. (2012), "On the Relevance of Folk Intuitions: A Commentary on Talbot," *Consciousness and Cognition* 21 (2): 654–660.
- Sytsma J., Ozdemir E. (2019), "No Problem: Evidence that the Concept of Phenomenal Consciousness is Not Widespread," *Journal of Consciousness Studies* 26 (9–10): 241–256.
- Talbot B. (2012), "The Irrelevance of Folk Intuitions to the 'Hard Problem' of Consciousness," *Consciousness and Cognition* 21 (2): 644–650.
- Taylor C.S. (2013), *Validity and Validation*, Oxford University Press, New York.

- Volynets S., Glerean E., Hietanen J.K. et al. (2020), "Bodily Maps of Emotions Are Culturally Universal," *Emotion* 20 (7): 1127–1136.
- Walrath R., Willis J.O., Dumont R. et al. (2020), "Factor-Analytic Models of Intelligence," [in:] *The Cambridge Handbook of Intelligence*, R.J. Sternberg (ed.), Cambridge University Press, Cambridge: 75–98.
- Weinberg J.M. (2017), "What is Negative Experimental Philosophy Good For?," [in:] *The Cambridge Companion to Philosophical Methodology*, G. D'Oro, S. Overgaard (eds.), Cambridge University Press, Cambridge: 161–184.
- Weinberg J.M. (2016), "Going Positive by Going Negative. On Keeping X-phi Relevant and Dangerous," [in:] *A Companion to Experimental Philosophy*, J. Sytsma, W. Buckwalter (eds.), John Wiley & Sons, Chichester: 71–86.
- Weisman K., Dweck C.S., Markman E.M. (2017), "Rethinking People's Conceptions of Mental Life," *Proceedings of the National Academy of Sciences* 114 (43): 11374–11379.
- Weisman K., Dweck C.S., Markman E.M. (2018), "Folk Philosophy of Mind: Changes in Conceptual Structure Between 4–9y of Age," *Proceedings of the 40th Annual Meeting of the Cognitive Science Society*: 1163–1168.
- Williamson T. (2016), "Philosophical Criticisms of Experimental Philosophy," [in:] *A Companion to Experimental Philosophy*, J. Sytsma, W. Buckwalter (eds.), John Wiley & Sons, Chichester: 22–36.
- Winkielman P., Berridge K.C. (2004), "Unconscious Emotion," *Current Directions in Psychological Science* 13 (3): 120–123.
- Zahavi D., Kriegel U. (2016), "For-Me-Ness. What It Is and What It Is Not," [in:] *Philosophy of Mind and Phenomenology: Conceptual and Empirical Approaches*, D.O. Dahlstrom, A. Elpidorou, W. Hopp (eds.), Routledge, New York: 36–53.