**Consciousness Inside and Out:**

**Phenomenology, Neuroscience, and the Nature of Experience**

Most papers in this volume come from the 3rd Online Consciousness Conference, which was held February 18-March 4 2011. While the original papers, presentation materials, and discussion, both from this and previous conferences, remain online at <http://consciousnessonline.com>, most papers have been extensively revised in light of the discussion at the conference. In addition, commentators provided new commentaries and in most cases the author provides a new response. What emerges from this are conversations that are highly integrated. This makes the contents of this volume more of a product of the online consciousness conference than a snapshot of what happened.

As I write this I am in the midst of the 5th conference which runs February 15-March 1st 2013. It is hard for me to believe that this conference has been as successful as it has been, especially considering that it has been done, for the most part, without any money. It is my hope that this inspires others to try online conferences, as I was myself inspired by the original Online Philosophy Conference that came before me. When I learned that just two people had put together those conferences I figured that one person should be able to do it as well. Luckily for me, this specious reasoning worked out! I do not want to see online conferences replace traditional face-to-face conferences but I do hope that the record of conference publications from Consciousness Online and the Online Consciousness Conferences serves as a model for how open, rigorous discussion can serve to move debates forward and produce high-level resources for those working on understanding consciousness.

The book is organized into ten parts each of which contains chapters consisting of a target paper, commentaries and, in most cases, an author response. The papers come from a conference and so range over many different areas in the philosophy of mind and neuroscience. Given this there are many ways that they could be grouped.

Ruth Millikan presents an epistemological problem for phenomenology. Over the course of her career Millikan has defended a broadly Sellarsian account of the nature of our concepts, filtered through the lens of evolutionary theory. If one is convinced, or even sympathetic to, a theory of this kind, then one faces the following puzzle. How can we have accurate concepts of our own phenomenology? Millikan argues that we cannot, rather what we have is a flawed lay theory. In true heterophenomenological spirit, there may merely seem to be phenomenology. Gualtiero Piccinini & Corey Maley respond by arguing that one can endorse Millikan’s program without being agnostic on whether or not there are sensory qualities if one accepts their ‘self-measurement’ view. On this view scientists treat subjects as measuring instruments and take their reports in the way they would the read-outs of a self-measuring instrument. Thus even though it may be the case that subjects are unable to form the right kind of concepts about their own experience, that is no bar to the scientific study of phenomenology.

Paul Churchland argues that arguments against physicalism based on a priori reasoning fail by their own standards. He first points out that many different theorists have started from the armchair and come to very different conclusions. This in and of itself should suggest that a priori reasoning is not great at letting us know how the actual world really is. Churchland is happy to admit that, for all he knows, some form of dualism may be true. But he is betting that science will show that it isn’t and that once we get clear on the arguments for dualism they will loose their air of being rationally compelling. He begins by discussing Nagel’s kind of argument based on the subjective/objective distinction. He argues that there are two different kinds of knowledge here, but not two distinct properties. He then goes on to argue that both the dualist and the physicalist are committed to the existence of apparently simple qualitative properties. The question for Churchland is whether the fact that we **seem** to encounter simple qualitative properties in our experience is right. How do we know that when we are experiencing pure phenomenal red, say, that it doesn’t merely seem to us that we are in contact with a simple unanalyzable property instead of it being the case that we really are in contact with one. That is, we can know a priori that there must be some limit to how far we can decompose the elements of our experience, whether or not that limit is merely due to our epistemic situation we cannot tell, since whatever we don’t know about, we don’t know about!

He then argues that, given we see the apparent qualitative simples as neutral ground, dualism is to be thought of as an explanatory theory of our phenomenal experience, but when we evaluate it on that ground it looses out big-time to the emerging neuroscientific explanations. Thus, when we compare the two theoretical accounts side-by-side the physicalist has an explanatory advantage. One well know problem is how one could come to know about one’s consciousness if it is not physical and can have no causal impact on the physical world. Dualists at this point usually appeal to knowledge by acquaintance, and we will come back to that when we discuss Philip Goff’s paper, so I will put that issue aside for now. The second problem Churchland sees is that unless one is a substance dualist it is unclear who is actually doing the apprehending in these cases. Who is the conscious subject that is directly acquainted with consciousness if not just the brain or some non-physical substance?

Torin Alter responds by pointing out that a large number of Churchland’s criticisms do not threaten the knowledge argument or the conceivability argument (he leaves the bat out of it). The chief complaint of Churchland’s paper is that property dualism cannot give an explanation that is at least as good as the physicalist explanation. But the kinds of things that Churchland cites are the kinds of things that the property dualist expects to find. That is, they expect there to be law-like regularities that connect physical and functional facts up with the phenomenological facts. One way to read Churchland, however, is as endorsing the claim that by postulating identities between, say pain and certain neural functioning, is that we then get to explain how pain, the qualitative feel of it, causes us to do various things. Read in this way Churchland is not merely claiming we can explain these kind of structural properties, but that they allow us to explain how the mind causes behavior, which he claims is at the core of our common sense conception of consciousness. It is because property dualism cannot explain that, whereas the physicalist can, that Churchland claims that there is explanatory power in the physicalist’s theory that is lacking in the dualist’s theory.

Alter then goes on to discuss Churchland’s distinction between the two kinds of knowledge in his debunking of the knowledge argument. Alter denies that this response works. The knowledge argument depends on two claims. The first is that Mary could not deduce what it is like to experience red just from the (completed) neuroscientific facts. The second is what Alter calls non-necessitation, which is the idea that there are truths which are not necessitated by our fundamental physical theory as traditionally conceived. Roughly speaking the idea of the knowledge argument is to move from non-deducibility to non-necessitation and from that to the falsity of physicalism. This argument may be controversial but it does not seem to commit the fallacy that Churchland points out. That is, at no point in the argument does it assume that scientific knowledge must somehow constitute the thing it is knowledge of. Alter goes on to say that the knowledge argument does rely on something related to this principle, which he calls the Propositional Knowledge Claim, which is just the idea that Mary’s knowledge can be expressed in such a way that it can be evaluated as true or false. Churchland could reformulate his argument in terms of the Propositional Knowledge claim but he does not. Also, as Alter notes, one would need to give an argument that Mary does not learn something that can be evaluated for truth or falsity and Churchland does not give a convincing argument for this.

Instead Churchland responds by objecting to the formulation of the argument in terms of deducibility. It is a mistake, he claims, to demand that from the physicalist, since the identities must be postulated in order to allow the deduction to take place. So, it is no objection to the account that Churchland wants to defend that someone who was ignorant of the bridge laws would be unable to make these kinds of deductions, this happens all of the time according to him and is exactly why the identities are postulated in the first place. Secondly, Churchland rejects the formulation of the argument in terms of necessitation. Rather, he prefers to stick to the formulation where the question is whether the fact that she learns something new (which Churchland admits) has ontological consequences. To make his point he notes that Mary would be just as surprised when she learned what it was like for her to have a certain brain sate, but that is certainly physical! Churchland also rejects the notion of reduction that is at work in Alter’s formulation of the argument. All in all Churchland seems to endorse what is known as Type-Q materialism, which denies the modal apparatus needed to make the anti-physicalist arguments work.

Philip Goff argues that plausible commitments of the standard property dualist commits them to panpsychism. The argument roughly goes as follows. In order for the standard anti-physicalist arguments to work they are committed to what Goff calls transparency, which is the claim that introspection reveals the real nature of conscious experience. The reasoning is straightforward. If we are truly to draw metaphysical conclusions from epistemological considerations then it must be the case that we have epistemic access to the metaphysical nature of conscious experience. The property dualist, Goff continues, is also committed to the claim that consciousness is a sharp concept, which means that there are no fuzzy or halfway cases. You are either consciously see red or you don’t. Given these two commitments Goff considers a typical sorites case where we start with you consciously seeing red at one end and a pillar of salt at the other end. The property dualist must either say that consciousness is vague or that it suddenly disappears at some point. But neither option is appealing so the best conclusion is that the property dualist must conclude that the pillar of salt is conscious, which is panpsychism. One can see this as an argument against property dualism if one thinks that panpsychism is sufficiently beyond the pale.

William Robinson argues that one can be a property dualist and resist Goff’s argument. One does this, roughly, but holding that it is changes in the neural substrate of the brain that seem to matter, as opposed to changes in fundamental particles. If one does this then one would expect a change in conscious experience if one has a change in the neural underpinning of that experience. So if one thinks of an experience of a sound it is plausible to think that this experience can fade out, and if we find a good correlation between that fading and the fading neural activity then we have found that consciousness can be vague. Jonathan Simon argues that Goff has not succeeded in showing that the standard arguments against physicalism are committed to phenomenal transparency. At most they seem to be committed to a form of what Goff calls translucency. That is, to the claim that phenomenal concepts reveal some but not all of the essential features their objects. Secondly Simon goes on to argue that Goff is wrong in thinking that phenomenal transparency commits one to consciousness not being vague.

David Chalmers himself, at the online consciousness conference, has denied that the 2D argument against materialism depends on this kind of transparency. Suppose that our phenomenal concepts are translucent in Goff’s sense, then there is an aspect of our conscious experience which is hidden from us. But now consider a modified zombie world, one where there is a ‘that’s all’ clause so that it is a mere physical duplicate of the actual world. If that world is possible then we know that there is an aspect of consciousness that is not physical and that is enough to refute physicalism. The reason for this is that, though physicalism may be true for consciousness, it will not be true for whatever aspect of consciousness is missing at the zombie world, and as it happens that aspect is the one that we are acquainted with! But, as Goff points out, transparency is required in order to get the first premise of the zombie argument. Thus, one can be a Type Q physicalist, as Churchland seems to be, or one can argue that phenomenal concepts are radically opaque, as Millikan seems to. Or one could hold that our concepts are translucent and deny that zombies are conceivable.

Benj Helli argues for a version of direct realism. What Hellie wants to defend is the claim that when two subjects are in different rational positions they must have different phenomenal experiences. He argues that when one consciously sees red one accept a kind of sentence in which the phenomenal experience itself is a part. Thus there is no away to accept it without the sentence being true. He calls this kind of sentence ‘situatedly analytic’. He contrasts 4 cases. In one case we are awake and perceiving verdically. In another case we are asleep and perceiving verdically. This case involves lucid dreaming. In a lucid dream one is experiencing red, say, and is conscious that one is dreaming. On the other side we have the bad cases. We have cases of dreaming and not knowing that we are dreaming and cases of hallucination while not knowing that we are hallucinating (or of being awake and thinking we are having a lucid dream). Hellie takes it to be the case that in the case of lucid dreaming we can tell that our experiences are not the same as they are when they are awake. This is, at least in part, how we know that we are not dreaming. He uses this to argue that in the bad cases the subject holds contradictory attitudes. One accepts a sentence of ‘I see red,’ which has red as one of its parts, but you also deny that you accept that. Or to put it another way you accept a sentence like ‘I am seeing a red similacrum’ which has the red-thingy as a part, but you also deny that you accept that since you think that you are really seeing red. Thus, on Hellie’s view the hallucinatory is no longer able to be made sense of from the point of view of rational psychology. They get ‘exculpation,’ but they do so only from the second person point of view.

Jacob Berger argues for perceptual justification outside of consciousness. He contends that whether one is an externalist or not about phenomenal character we have good reason to think that we sometimes make judgments on the basis of unconscious perceptions. This evidence comes from experimental cases, like blindsight, as well as common sense cases. Berger then explore possible replies from Hellie. The first may be to attack the claim that judgments of blindsight patients may not be fully rational. Or it may be the case that Hellie thinks that the states in question are sub-personal and hence unable to count as part of one’s rational psychology.

Heather Logue argues against the McDowellian inspired thesis that we cannot evaluate a person who is in one of he so called bad cases in terms of rational psychology. The person in Hellie’s version of the bad cases may believe something that is contradictory but there is none the less beliefs that she would be justified in accepting. Hellie responds that we can reinterpret talk of justification in terms of which beliefs will be caused. Logue considers a mismatch case where one is actually veridically seeing a red tomato but believes that one is hallucinating. In this case Logue contends, it would irration of you to believe that you were veridically seeing a red tomato, and so rational psychology does apply, even in mis-match cases. Given this one must either reject Hellie’s claim that someone having incoherent beliefs excludes them from the norms of rationality or that the person in the mis-match cases is truly incoherent. Logue closes by Partially explore the idea of partial justification. It may be the case that someone in a mis-match case has partial justification for believing that there is a tomato present.

Jeff Speaks focuses on the relationship between a belief and a sensation. In particular he takes up the question of what it means for a representation to be self-referential in the way that Hellie needs. The problem is that it seems that the instantiation of any property will result in that property self-representing itself, but this can’t be right. What is needed, then, is a full account of the kind of self-representation that Hellie has in mind. Moving on to the issue of perceptual justification Speaks poses a problem. The relationship between the self-representational sentence one accepts and one’s belief must be the kind that allows one to be mistaken, as this is what happens in the mis-match cases. Yet, on the account that Hellie has developed it is hard to see how it is that we could be mistaken. Or to put it the other way around, we do not usually form the belief that we are dreaming when we are, yet on Hellie’s account we should.

Kathleen Akins begins the discussion by challenging a distinction that seems unchallengeable. Her aim is to undermine the distinction between black and white vision on the one hand and color vision on the other hand. In particular she wants to show that it is a mistake to think of black and white vision as simply the same as color vision yet minus the color. Or that it is a mistake to think that adding color vision is simply adding colors on tops of a black and white gray-scale image. Following Sellars, Aikins argues that this distinction is first learned from the way that we actually produces images (dating back to pre-historic cave paintings according to Aikins) and then applied to conscious visual experience. In the visual system we find a luminance system and a chromatic system. The analogy that Aikins wants to dispel is that the luminance system provides a black and white representation which is then colored in by the chromatic system. To make this argument she pays close attention to what are known as rod achromats, which are people who only have rods and so who only have the luminance system. The first step of her argument is to try to show that a rod achromat’s vision will not be like our normal black and white vision. If this is right then our own experience of luminance may not be as we think that it is. In this way one can see Aikins as providing a specific argument for the kind of position advocated by Millikan. Aikins argues as follows. When we learn the details of the luminance system we find out that the visual system does not represent intensity of light. Since a black and white image just is one that represents light intensity at each point on the image, it follows that human luminance systems are not producing anything like a black and white image. To make the point more vivid Aikins appeals to a very creative art instillation called RGB by the artist Carnovsky. In this exhibit images are printed in three different color ink and then viewed under different lights. This makes some of the images invisible, others stand out. Aikins argues that our experience in this kind of setting is more what the rod achromat experiences, and it is not a world in black and white. For Aikins the real difference between the luminance and chromatic systems is in the filters they apply in processing contrast information. Thus adding the chromatic system does more than merely add colors to a pre-existing black and white image. It allows a greater range of contrasts.

Peter Mandik poses what he calls Akins problem: can there be a visual experience that lacks both color phenomenology as well as black and white phenomenology? Akins’ paper can be seen as arguing for a yes answer, but what does that mean? Mandik suggests that we can make sense of her claim as a version of conceptualism. The conceptualist takes the view that phenomenology consists in conceptual representations. If one has that view it is easy to see how there can be conscious visual experiences that have neither hue nor shade. Mandik cites ‘seeing a rectangular mat’ but we might also cite peripheral vision as well.

Adam Pautz argues that the science of taste, smell, sound, and pain suggest that phenomenal externalism is false. In particular he presents detailed psychophysical and neuroscientific evidence that there is in some sense a bad correlation between the structural relationships between experiences and physical properties of objects. While there is a good correlation between these properties and internal brain states. For instance in the case of taste Pautz points to evidence that suggests that taste experience correlate with the pattern and intensity of activation in ensembles of neurons and that they correlate badly with external properties. The situation is even worse for smell. When it comes to pain Pautz presents evidence that the properties experience in pain do not correlate with the size or severity of the wound or with the intensity of activity of nociocepters. On the other hand we see a very good correlation between reported pain experiences and firing of neurons in pain areas. After going through many different sources of evidence from many different sensory modalities where there seems to be a conflict, he extends this to an argument making the conflict explicit. The first argument he call the internal dependence argument and his goal is to construct a counter-example to tracking intentionalism. Pautz argues that the empirical results are not enough since the opponents can claim that one of these cases is an illusion or they might say that the two creatures are tracking different properties of the physical objects. To avoid these issues Pautz provides cases that are not actual but are based on actual examples and do not involve anything which is scientifically implausible. Each case starts with two creatures that optimal track the same property ut who have different neural activations. In taste the two creatures are Yuck and Yum who both optimally track the same physical substance but have different neural activations. Given what we know about the science we would predict that they should have different experiences but the externaist has to say that they have identical experiences. For smell it is Sniff and Snort, for pain Mild and Severe, for sound Loud and Soft. This culminates in his official statement of the argument:

1. If tracking intentionalism is true, then in every possible coincidental variation case, the right verdict is Same Experiences.
2. But it is much more reasonable to suppose, in at least some coincidental variation cases the right verdict is Different Experiences; call this internal-dependence.
3. So tracking intentionalism is (probably) mistaken.

After presenting this Pautz turns to his second argument, which he calls ‘the structure argument’. This is a more general argument which aims to cast doubt on any version of objectivisim about the sensory qualities. The basic idea behind this argument is that, given the bad external correlations, people will make systematically mistaken judgments about the nature of the external world. For instance, if they have a burning pain that is twice as intense as one had a moment ago one will conclude that there is something about the world that isn’t there. In the final section of the paper Pautz extends his argument from tracking intentionalism to most forms of externalism about sensory qualities.

David Hilbert and Colin Klien respond by suggesting that Yuck and Yum track different aspects of the same property and so there is no problem, at least for their version of phenomenal externalism.

Jason Leddington argues for the claim that we hear non-sounds in hearing sounds, which is a version of the view advanced by Heidegger. On this view we directly hear the events in the hearing of the sound. This is contrasted with the view advanced by Berkeley, namely that we never actually hear the non-sounds directly. We hear the non-sounds indirectly. Leddington argues that phenomenological considerations mediate in favor of the Heideggerian view. His claim is that in auditory experience we experience the sounds as being bound to the events that make those sounds. Given the background assumption that the only two ways to hear non-sounds are the Heideggerian and Berkeleyian views (a claim that Leddington labels ‘Sonicism’) this constitutes and argument for the Heideggerian view. One powerful reason for thinking that we hear sounds as being fused with events that generate them is that it explains why sound sources are available for demonstrative reference. It is because I hear the tear in the bag as it is happening that I am able to think ‘that bag is tearing!’ Leddington argue that the Berkeleyian view has trouble explaining this without rejecting sonicism. This is because the Berkeleyian view cannot allow that I can directly refer to a non-sound via a sound. I can only indirectly refer to a non-sound. Another worry is that the Berkelyian view seems at odds with phenomenology of the locatedness of sounds. A further worry is that the Berkelyian view has sounds as appearing to be only contingently related to the events that produced them. But this is not the way that we experience sounds.

Casey O’Callaghan responds by arguing that he accepts Phenomenological Binding and also suspects that one could reject sonicism. O’Callaghan accepts a version of the phenomenological binding claim, so he does admit that there is some sense in which sounds are heard as being fused with their originators. But he denies that this is the same way in which colors are seen as fused with their objects. That is he wants argue that sounds are heard as distinct individuals that posses properties of loudness and pitch. On O’Callaghan’s view sounds are heard as parts of the events that they compose.

Matthew Nudds responds in a similar way. He too views sounds as individuals that posses properties and so views them as being experienced as in some sense independent from their sources. But he also makes a distinction between the sounds themselves and our experiences of those sounds. He claims that our experiences of sounds represent them as having two kinds of properties. The first is that they are in some sense independent of their sources, and the other is that they are produced by their sources. The sense in which they are independent of their sources, on Nudds view, is that they do not appear in our experience to be properties of their sources in the way that the color of an object appears to us to be a property of that object. Thus, on Nudds view, one can endorse both of the claims that Leddington advances. Our experience of sounds does represent them as being produced by their sources but it also represents them as being independent of their sources in an important way. This explains, for Nudds, how it is we can non-veridically represent. In the good cases we represent the sound and the source, but there are cases where we correctly represent the sound (getting its pitch correct say) but mis-represent its source (we experience it as being produced by the dummy’s mouth and not the ventriloquist’s mouth).

Kevin Connolly takes up the question of our phenomenal experience, which seems to combine many sensory modalities. When we are at a concert, say, and we can see the musicians playing, we experience the music or originating from the movements of the musicians. Connolly’s question is whether we need to appeal to specific multimodal contents or whether the usual ones will do. Connolly gives arguments against several different ways of trying to establish truly multimodal contents. He then suggests an alternative account of multimodal experience. On his view we can think of different modalities as families of quality spaces and then we can think of multimodal experience as our coming to associate properties in one quality space with the properties in the other quality spaces (e.g. sounds with lip movement).

Matthew Fulkerson explores the issues by distinguishing two senses in which one might be a conservative about the content of multimodal experiences. One way to make the claim is to hold that no sensory content is shared among the senses. Another way is to hold that the content of any given perceptual experience consists only in the sensible features found in the individual modalities.

Berit Brogaard presents evidence for a kind of visual seeming that is not based in the visual areas of the brain. Using synesthesia as a case study she presents cases where there is robust visual phenomenology but no change in the activity of the visual areas. She argues that this is evidence for a kind of visual seeming that is conceptual in nature. She also argues against the standard debunking of this kind of high-level conceptual experience, namely that the high-level conceptual content changes the first-level activity.

Ophelia Deroy in her commentary on Brogaard carefully considers ways in which we might tease apart these various notions of seeing. She then presents an alternative reading of the evidence presented by Brogaard. Instead of thinking that there is a kind of seeing that is neither perceptual nor imagistic Deroy suggests that there may be a kind of visual experience that is a blending of perceptual experience and imagistic experience.

Miguel Sebatsian argues that the most plausible neural implementation of higher-order thought theory is that it is reflected in activity of the dorsal lateral prefrontal cortex. In particular he appeals to the work of Hakwan Lau’s lab to show that selectively interfering with this area produces blindsight-like performance in a visual discrimination task in normal subjects. We know independently that this area is relatively deactivated during REM sleep. Given that we think that REM sleep is when we have dreams and that dreams are consciousness, then there seems to be some tension. If dreams are conscious and occur when the dorsal lateral prefrontal cortex is relatively inactive then it seems as though the higher-order thought theory is in trouble.

In response Josh Weisberg raises several worries. On the one hand one might doubt that dream are conscious. This seems bizarre, but is hard to rule out. More worrisome, though, is the claim that dreams are conscious, but less vividly so as waking conscious experience. If so then we would expect that the areas related conscious experience show some level of deactivation. In addition, Weisberg argues, there are other candidates for the neural realizer of higher-order thoughts. These include Caruthers’ claim that they are connected to the Theory of Mind module (postulated to be in the medial prefrontal region), Damosio’s theory that they are a kind of self-consciousness and are found in the anterior cingulate cortex, and Flohr’s proposal that they are distributed neural assemblies involving NMDA-sensitive synapses.

Matt Ivonowich further presses this issue by arguing that the dlpfc is not a good candidate for the realization of higher-order thoughts.