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Higher-Order Thought and Borderline Cases of Consciousness:

An Objection to HOT

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In partial fulfillment of a Bachelor of Arts Degree in Philosophy, 2018 – 2019 academic year, Scripps College, Claremont, California

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Abstract: David Rosenthal, in his Higher-Order Thought (HOT) theory of consciousness, argues that it is a higher-order thought to the effect that the subject is in a conscious state that makes one conscious of his or her own mental states. In this paper, I argue that since phenomenal consciousness can be vague and Rosenthal's HOT cannot, HOT is not a necessary condition of phenomenal consciousness. I use primarily Ned Blocks' refrigerator hum case and Sartre's example of non-positional awareness to argue that the threshold which determines the degree of first-person awareness necessary for a mental state to be conscious is vague itself, therefore consciousness is a vague concept. HOT cannot accommodate for borderline cases of phenomenal consciousness, therefore it cannot be a necessary condition of all conscious mental states. This is especially relevant in the discussion of non-human animal consciousness, as HOT theories such as Carruthers have been used to deny non-human animal consciousness on the basis of the on/off feature of such representational theories.

Introduction

Within the field of philosophy, the topic of consciousness has been approached widely by both continental and analytic philosophy. Although consciousness is defined in various ways, it is generally agreed upon that the "mystery" of consciousness is in understanding the "what it's like"¹ feeling of existence. Each branch of the discipline has attempted to grapple with a fundamental question: how consciousness comes to be in the mind and, more specifically, how it comes to give us our particular first-person experience of ourselves and the world. In this thesis, I am beginning a project of bringing continental thought into conversation with more contemporary philosophy of mind theories on phenomenal consciousness in order to question the commonly held belief that consciousness is an all or nothing phenomena of mental states. This is particularly

¹ See Thomans Nagel's *What it is like to be bat* (1974)

important for the discussion of animal rights, as non-human animals with less or different cognitive capacities than human beings ought to be included in the discussion of consciousness. I will not be engaging in the discussion on animal consciousness of animal rights in this paper, but it is the driving force behind my objection to higher-order thought theory of consciousness and a topic that I will continue to develop in the future.

Representational theories of consciousness began as early as Immanuel Kant in his theory of “transcendental apperception” (Schwyzer, p. 344). Kant argues that a subject’s experience is given through perception. Perception from the external world is given to the subject through representation. Kant calls this concept apperception, which is the way that our inner sensory states perceive and represent the external world to us: this is what forms our ability to have thoughts about the world. Kant uses the term “transcendental apperception” (Schwyzer, 344) to describe the inner sense of self we have prior to thought; he makes a critical movement away from Descartes’ Cartesian dualism in his distinction between the ‘I’ which thinks and the ‘I’ which undergoes experiences via representation (Kant 1724-1804, VII, 161). Since Kant, theories of representation have played a major role in the philosophy of mind and consciousness, specifically in explaining the distinction between states which we experience consciously and states which are not conscious.

Representational theories of consciousness have been so influential in philosophy of mind because they provide a way in which to understand this significant difference between mental states that we experience from the first-person perspective and mental states which are not experienced by the first-person perspective. This awareness that we have of our own mental states is generally called “phenomenal consciousness”. One of

the most well received representational theories in philosophy of mind has been David Rosenthal's Higher Order Thought theory of consciousness. The HOT theory of consciousness (HOT) provides a compelling way to understand phenomenal consciousness as mental representations of lower-order states to a subject which experiences these representations (Rosenthal, 1997, 2002, 2009). Lower-order states are perceptual states which are unconscious, meaning that they have not yet been represented by a higher order thought. Rosenthal proposes that HOT is a necessary condition of phenomenal consciousness because it is a thought which represents mental states to the self. Without such thoughts, there could not exist a "what it's like"² quality of experience, such as the experience of seeing red or tasting an apple.

However, for sensory or perceptual experience in particular, HOT theory confronts a problem. The HOT model is supposed to explain why we feel sensations such as pain, hunger, emotions, etc. by claiming that a mental state is necessary for the first-person experience of these perceptions (Rosenthal 2009, 3). There is a "subject of experience" to which every perceptual experience is represented via HOT: this subject of experience is either conscious of the perception or not. This binary, in turn, determines whether the perception itself is conscious or unconscious. Rosenthal refers to this subject as the apparent "unity of the self". We have the subjective impression of a singular, contiguous self that persists through time and space (Rosenthal, 328). According to Rosenthal, this subjective impression we have of a singular, united self requires explanation, and HOT offers an understanding of the conscious self as something that exists and persists via higher-order representation. The HOT preserves this subjective

² Nagel's understanding of phenomenal consciousness from "*What is it like to be a bat?*"

impression by proposing that perceptual experience is only conscious when the subject is aware of it by virtue of a mental representation of a HOT.

However, for perceptual experience-- especially in cases of bodily experience such as pain, visual experience, or taste--there exist cases in which it cannot be determined whether the subject's awareness of the experience reaches the threshold of a conscious perceptual state. Most perceptual experience is not determinably conscious or unconscious because it is experienced in degrees of first-person awareness and attention. At what point does the amount of first-person, subjective awareness of a perceptual experience reach the threshold of a conscious perception? As the threshold itself is vague, it remains impossible to determine what degree of first-person awareness would be required to interpret conscious perceptual states.

The existence of borderline cases of consciousness with respect to this subject of consciousness undermines HOT theory, particularly as it pertains to perceptual or sensory experience. There are cases in which the subject is not directly aware of his or her experience from the first person perspective, but nonetheless still arguably experiences a form of consciousness; and since there is no quantitative method to the determination, there are no clear answers to the question of whether these experiences are conscious. Again, since there is no agreed upon, empirical understanding of the threshold at which a state becomes conscious beyond our first-person experience of it, in some cases it cannot be determined whether a state which has, for example, a low degree of awareness from the first-person perspective is conscious or unconscious. I refer to these states as

“borderline” perceptual experience. Rosenthal presents consciousness as an ‘all or nothing’ phenomenon, but if it is not, and partial awareness exists, then HOT cannot be a necessary condition of phenomenal consciousness.

The ramifications of HOT are significant beyond our borderline perceptual experiences. Notably, some HOT theories have used HOT to deny animal consciousness. The argument is generally structured as follows: most non-human animals (excluding chimpanzees and other mammals with more comparably developed mental capacities to humans) do not have the cognitive capacities required to have HOTs, and are therefore unable to experience conscious states. According to Peter Carruthers, a proponent of the “Dispositionalist” HOT theory, most non-human animals experience their perceptual states in a similar way to how humans experience their unconscious, because they lack the capacity necessary to experience mental awareness of their own perceptual states. He claims the following about the “feel” of being a non-human animal in his book *Phenomenal Consciousness: A Naturalistic Theory*, in which he argues for an evolutionary account of consciousness in humans:

If animal experiences are not phenomenally conscious...then their states will lack feel. But if the pains of animals, too, lack feel, then doesn't that mean that animals don't feel them?...There is no real objection to HOR theory here...merely an ambiguity in the term “feel”...The relational property of feeling pain can thus be understood in purely first-order and non-phenomenological terms, just as can the property of seeing red, [but]...we can (and should) deny that the pains which animals feel are phenomenally conscious ones. So we should deny that animal pains have subjective feels to them, or are like anything to undergo...In fact the idea of a feeling of pain which lacks feel is no more problematic than the idea of a percept of red which lacks feel... (Carruthers 2000, pp. 200-201)

According to Carruthers, having a HOT requires a conceptual understanding of self which most animals lack. Specifically, animals do not have a “theory of mind” which allows them to mentally distinguish a “self” that is the owner of such mental experiences

beyond just a stream of experience (Allen 2004, 627)³. It is unclear whether Rosenthal shares the same view about non-human animal consciousness, but he does claim that intentional states such as HOT only require “little conceptual richness” (Rosenthal 2002, 418) because the sense of self only needs to involve a differentiation between self and other. Regardless of whether Rosenthal considers non-human animals to have the cognitive capacity necessary for HOT, the argument that HOT is a necessary condition for phenomenal consciousness clearly has dangerous implications for our treatment of non-human animals, particularly those that have a more minimal sense or concept of self. Although this paper will not focus on how HOT denies animal consciousness, it is the driving force behind my objection to Rosenthal’s claim that HOT is a necessary condition for phenomenal consciousness.

In this paper, I will be objecting to Rosenthal’s claim that HOT is a necessary condition of phenomenal consciousness. First, I offer a more detailed description of Rosenthal’s argument regarding HOT and its role in our subjective experience of perceptual states. I will then argue that because borderline cases of phenomenal consciousness exist, and HOT does not have borderline cases, HOT cannot be a necessary condition of phenomenal consciousness.

³ Allen, in his argument against Carruthers *Animal Pain* (2004), does not define what it means to have a “theory of mind”, but Carruthers has a naturalistic account of what it entails that focuses on evolutionary processes which distinguish the range of mental experiences biologically available to non-human animals (excluding chimpanzees) from humans. *See generally* Carruthers (2000) *Phenomenal Consciousness: A Naturalistic Theory*.

I. Rosenthal's HOT Theory of Consciousness

The HOT theory of consciousness proposes that a state is conscious if and only if it is represented to the self by a higher order thought (Rosenthal, 2009, p. 7). Rosenthal's definition of conscious mental states rests upon what he calls the "transitivity principle", which claims that a mental state is only conscious if "one is conscious of that state in some suitable way" (Rosenthal 2009, p. 2). If a subject is in a mental state which the subject is not aware of being in, that state is not conscious. There must be something it is like for the subject to be in that conscious state. Rosenthal claims that any theory of consciousness must account for the difference between states which have this what it's like quality and states which do not (Rosenthal 2009, p. 8). Therefore, for Rosenthal, consciousness is phenomenal consciousness.

According to Rosenthal, HOT is a necessary condition for phenomenal consciousness (Rosenthal, 2002, p. 407). This claim avoids the overly simple conclusion that consciousness is simply an innate feature of our mental states. However, it also avoids confronting an infinite regress. The infinite regress problem is defined by Rosenthal himself:

If we are to "explain what it is for any mental state to be conscious except in terms of another mental state, whose being conscious itself requires explanation. We will end up appealing to indefinitely many mental states, each of them conscious, in order to explain what it is for a single mental state itself to be conscious" (Rosenthal, 1997, p. 235).

The infinite regress problem, and specifically the vicious infinite regress problem, asks how a mental state can cause a conscious state without an infinite amount of previous consciousness-causing states. However, since HOT is not phenomenally available to the subject, it is an unconscious thought. The HOT itself must be something

unconscious and external to the mental states that it represents. He claims that "from the first-person point of view nothing mediates between the conscious states we are conscious of and our transitive consciousness of them" (Rosenthal 2002, p. 408). The fact that we do not experience the HOT directly is evidence of its lack of conscious existence.

The content of this HOT, which occurs alongside every conscious mental state (Rosenthal 2002, p. 409), is that the subject is "in that very state" it currently experiences. (Rosenthal 2002, p. 409). Being aware of a state is a "necessary condition for that state to be a conscious state", and the HOT is what provides this awareness (Rosenthal 2002, p. 407). However, the HOT is not the same as the mental state it accompanies or the conscious state itself; it is the mechanism that allows a lower-order perceptual state, which is not accessible to the first-person perspective, to be conscious to the subject (Rosenthal 2002, p. 410). Rosenthal admits that the existence of a thought which has no content beyond being in that lower-order state may seem "psychologically superfluous" (Rosenthal 2009, 9). However, he argues that that HOT is not a mere replication of the lower-order state; rather, it is a representation of the state. Its content is not the lower-order state itself but a thought about the lower-order state (Rosenthal, 2009, p. 9)

The exact characteristic of a "thought" is defined by Rosenthal as any intentional state which has "an assertoric mental attitude" (Rosenthal, 2002, p. 410). However, a conscious mental state does not have to be reported to the self continually in order to be conscious; the qualitative content of our mental states such as perception, emotion, and even reasoning processes can be experienced by the subject without explicit first-person knowledge that they are being experienced (Rosenthal 2009, p. 241). An example of something that is conscious but that lacks this constant mental reporting is the perception

of color. When I see red, I do not immediately have the thought “I see red”, but I do have a distinct phenomenal experience both of the color red as being red and as myself as perceiving it in this way (Rosenthal 2002, p. 411). There is a sense of ownership of the experience along with the experience.

Put simply, a state is conscious when a HOT represents a lower-order state to the self as belonging to the self. The conditions of having phenomenal consciousness for Rosenthal can thus be characterized as the following.

1. Has the content of thinking one to be in a conscious state (Rosenthal 2002, p. 409)
2. Accompanies every conscious state (Rosenthal, 2002, p. 7)
3. Is not conscious itself (Rosenthal 1997, p. 235)
4. Takes the lower-order state as its target (Rosenthal, 1997, p.164)
5. Makes the self aware of a lower-order state as belonging to the self (Rosenthal 1997, p. 164)

Since the content of a HOT is a thought that the subject is in a conscious state, there must be a subject to experience that conscious state. As elaborated upon below, these limitations lead to a problem for HOT when approaching mental states in which the first-person subject is not fully present or aware of the mental state. If HOT is a necessary condition for conscious mental states, it cannot account for cases in which it is indeterminable whether the subject is experiencing a fully conscious state. I will address this issue in my next chapter on borderline cases of phenomenal consciousness. In that chapter, I argue that because there are no borderline cases of HOT, it cannot be a necessary condition of phenomenal consciousness.

II. Borderline Cases and HOT

2.1 HOT as belief-like mental state without borderline cases

In order to introduce the objection to HOT from borderline cases, I will first attempt to characterize HOT in terms of being a quasi-belief, or a belief like state. Although it does not share all the same characteristics as belief, it still resembles belief in certain significant ways that makes it necessary to distinguish it from thought, as thought is such a broad category of mental states. Some things that are thoughts would not capture the sort of mental state that Rosenthal is proposing for HOT. Rosenthal's first criterion for HOT is that the HOT has the content of thinking that one is in a particular mental state (Rosenthal 2002, 409). According to Rosenthal, to be in a conscious state the HOT must have the content of representing that the self is in that very state. He gives the analogous example of wine tasting; when wine tasting one can gain new thoughts about flavor by directing their attention towards the nuances in the flavor. These new learned thoughts manifest in having new sensory experiences of wine (Rosenthal 2002, 413). Presumably, these sensory experiences already existed, but by becoming actively aware of them through specific 'thought' about the sensations brought about by that taste, the subject is now aware of these new sensory experiences (Rosenthal 2002, 413). Similarly, HOT presents a new 'thought' about an existing lower-order state that develops into a conscious mental state.

Rosenthal describes this lower-order experience as "subliminal perception and peripheral vision" that present no phenomenal quality (Rosenthal 2002, 411). Thus, it

seems appropriate to hold that since phenomenal consciousness is the result of a HOT, it is in effect the result of a new thought about a lower-order experience. This “new thought” I will characterize as a belief-like state for the following reasons. Rosenthal states that the HOT is assertoric (Rosenthal 1993, 913), meaning that it asserts that something is the case. An assertion that something is the case is the same thing as having a belief, as a belief is a thought that something is true. Saying a belief that something is the case is therefore redundant. Rosenthal says that the HOT cannot be a kind of thought which is not assertoric, such as a doubt:

“When we are conscious of something by being in an intentional state about that thing, the state's mental attitude is always assertoric; doubting does not make one conscious of anything” (Rosenthal 2009, 12).

Other thoughts such as desiring, wishing, and hoping not only fail to meet the standard for assertoric--they would not perform the function of representation. They are not assertoric because they do not represent that something is the case. A thought such as a desire asserts a feeling or consideration of one's relation with the external world. A belief on the other hand picks out something with more conviction or confidence. In other words, a belief is an assertion that something is already the case without anything further happening. By contrast, a desire is a thought about a potentiality. “I desire to be in a conscious state C” does not suggest the same confidence about an actuality as “I believe I am in a conscious state C”, regardless of the extent of my confidence that I desire it. Therefore, desiring to have been in conscious state C would not make me conscious of C. I will consider it synonymous to say subject S asserts P and subject S believes P, as an assertion of a statement suggests that the subject believes that statement. Belief is the most plausible candidate for the kind of thought Rosenthal is suggesting for the HOT.

So, a subject is in a conscious mental state in the case that there is an accompanying belief-like state to the effect that the subject is in this conscious mental state (Rosenthal 1986, 334). Therefore, I will characterize HOT as a belief-like state to the effect that one is in a conscious state.

My objection to Rosenthal's conditions for phenomenal consciousness is that if phenomenal consciousness admits vagueness, then HOT cannot be a necessary condition. If the HOT is a necessary condition for phenomenal consciousness (PC)⁴, then a belief-like thought that one is in a conscious state must occur for every mental state that is PC. However, I will argue that PC has borderline cases which the HOT cannot account for, as there are not borderline cases of HOT.

Rosenthal's HOT theory does not account for the vagueness of phenomenal consciousness. According to HOT theory, a mental state is either conscious or unconscious; there is no in between. As soon as a lower-order state has been represented by HOT, it is conscious. However, phenomenal consciousness suffers from the same problem that standards for baldness or tallness do in that the characterization of these concepts is dependent on terms that we use to pick out certain contextual truths. There is not objective threshold for baldness in the world; rather it is a term we use to describe someone who appears a certain way, regardless of whether there are two hairs or five hairs on someone's head. If there are concrete standards (for example, if we say bald is 5 or less hairs), these are arbitrary in that they do not pick out any objective truth about baldness. Borderline cases, such as having a head with 8 hairs on it in which the subject

⁴ I will use conscious state and phenomenally conscious state interchangeably regarding Rosenthal, as consciousness for Rosenthal is phenomenal

could be either bald or not bald characterizes the type of case in which no amount of empirical evidence or inquiry could measure its truth-value.

As previously described, a borderline case of consciousness is one in which it is not determinable whether a state is conscious or unconscious, according to the governing standards. As with the baldness case, it is indeterminable from any cultural or neuroscientific understanding of consciousness at which point exactly a state transitions from unconscious to conscious. According to Rosenthal, this transition occurs with the accompaniment of a HOT. Earlier we defined the HOT as a type of belief that one is in a conscious state. Therefore, phenomenal consciousness is a result of a type of belief that one is in a conscious state. However, being the result of this type of belief that one is in a conscious state cannot have borderline cases. A state is either the result of such a belief or it is not, therefore, a state would have to be either conscious or unconscious if we take HOT to be a necessary condition of consciousness. HOT forces a binary construct: a state is either the result of such a belief or it is not, and therefore, a state would have to be either conscious or unconscious if HOT is a necessary condition of consciousness.

However, there are compelling reasons to believe that belief has borderline cases, which I will outline in the following passages. For this reason, I will consider a HOT to be a belief-like state which cannot have borderline cases: similar to belief but distinct in the ways that would make it have borderline cases. The two most compelling arguments for belief being a vague state are examples of degrees of confidence in belief and contradictions in conscious belief and behavior. It is clear that there exist uncertain or shaky beliefs in which it is indeterminable whether these mental states count as believing. Consider the following example. You are handed a lottery ticket and enter the lottery. Do

you believe that you will lose the lottery? If your degree of confidence in losing the lottery is above a certain threshold, then your answer to the question would count as a belief, but if your degree of confidence in losing the lottery is below a certain threshold, then your answer would not count as belief. However, the threshold for degree of confidence itself is vague; we have no way of determining what degree of confidence would qualify as belief, at least beyond if it appears to be a belief, therefore it is indeterminable whether your partial belief that you will lose the lottery qualifies as a belief. If the question ‘Is x a belief?’ is posed, the answer is that it is indeterminable because there exists a degree of confidence which make it impossible to pinpoint whether the degree of confidence lies above the threshold for belief or not. Therefore, it is vague whether this is a belief.

Here, borderline cases of belief arise as a result of degrees of confidence in belief. A contradiction in belief and behavior can also serve as another way of arguing for the claim of a borderline case of belief. Schwitzgebel proposes an example of a borderline implicit belief in which someone has a contradictory belief and an implicit belief about race; a professor believes in the intellectual equality of the races. However, when not attending to (reflecting on) this belief, she is repeatedly racist in her interactions with her black students, either in person or in grading their papers (Schwitzgebel 2010, p. 532). Here, implicit bias is causing a contradiction in the professor’s belief about her beliefs and her actions influenced by these same beliefs. Here, it is vague whether someone believes something “under any circumstance in which they satisfy the criteria for holding the belief in question to some significant extent, but not sufficiently to count as

believing” (Archer 2017, 3033). It is vague in her circumstance whether she believes that the races are intellectually equal.

The two cases here of vagueness associated with belief involve either uncertainty or a contradiction in reflective belief and implicit belief. However, from Rosenthal’s characterization of HOT, it does not appear that it can have degrees of confidence or contradictions that would cause it to not be a mental state at all. Even if a HOT existed which had a 0.8 degree of confidence in its content, the subject is still determinately having a thought. The thought might have a degree of confidence which would make it vague with regard to belief, but regarding being a mental state, it is determinately so. Although it can be vague whether or not a HOT is a belief, it cannot be vague that HOT is a mental state of some kind which resembles a belief.

Further, a HOT cannot have contradictions between conscious and unconscious belief because what characterizes HOT is that its content is only one thing: that the subject is in the appropriate mental state. A contradictory belief would be that the subject is not in a conscious state. However, a HOT can only be that the subject is in a conscious state; the belief that one is not in a conscious state would not then be a HOT. However, since characteristics of mental states which are belief seem to be that they are vague, I will conclude that HOT is a belief-like mental state. Because HOT does not characterize the plausible cases of partial or vague belief, I am assuming that HOT does not satisfy the conditions of belief which would allow it to have borderline cases. Therefore, the type of belief that HOT characterizes cannot be a vague.

2.2 Borderline Cases of Consciousness

If there are borderline cases to being in a conscious state; that is, to being in “mental states we are conscious of being in” (Rosenthal 1989, 335) but not borderline cases of the HOT that causes these mental states, then HOT cannot be a necessary condition of being in a conscious mental state. Rosenthal himself acknowledges in *Higher Order Theories of Consciousness* that “perceptions, emotions, and bodily sensations” (Rosenthal 2009, 245) present a difficulty for HOT theory. According to Rosenthal, perception is only conscious when accompanied by a suitable HOT. However, he acknowledges that the complexity of the physical processes involved in these physical states makes it difficult to chart the “subtle variations” (Rosenthal 2009, 245) of these states. The appearance of a HOT requires that there is an exact moment at which an unconscious state becomes conscious. But there appear to be mental states in which it is indeterminable whether the subject is aware of them or to what degree the subject is aware of them, therefore calling into question whether there exists awareness at all. Rosenthal claims the following about these subtle variations in perception, which could be the variations in color or flavor or other perceptual states of being which the subject is partially aware of:

Plainly we do not have words for all the subtle variations in qualitative character that occur consciously in us. So it is unlikely that we have concepts for them. This presents a challenge for the HOT hypothesis, and an apparent advantage of inner sense. If our concepts cannot capture all the conscious differences among our qualitative states, neither can our thoughts (Rosenthal 2009, 8).

By inner sense, Rosenthal is alluding to the inner sense or Higher Order Perception (HOP) theory of conscious states. HOP proposes that it is an inner perception that represents lower-order perception to the self, thus resulting in conscious mental states (MacKenzie 2007, 43). The advantage of HOP is that it allows for these subtle

variations in perception which are not noticeable from the first-person perspective because there can presumably be borderline cases of higher-order perception, in which there is a minimal amount of perception being represented to the conscious self.

However, Rosenthal concludes that although it is tempting to view perception as a result of higher-order perceptual states, these states would fail to explain the qualitative property of our conscious sensory states. Higher order perception would need to be explained by another higher order perception, which would eventually lead to an infinite regress (Rosenthal 2002, 409). D.M Armstrong, a proponent of HOP, introduces Rosenthal's concern about perceptual states by giving an explanation for the apparent subtle variations in our conscious awareness. The example that Armstrong uses to support HOP is the long-distance truck driver. In his long-distance truck driver example, the driver has been driving for a large amount of time, but suddenly when making a turn realizes that he has been driving for a large amount of time without being aware of himself driving. His attention must have been directed at the act of driving, but he does not remember himself being attentive to his movements in this way (MacKenzie 2007, 43). To understand this sort of event, Armstrong differentiates between perceptual consciousness and introspective consciousness, in which one can have perceptual consciousness without introspective consciousness (McKenzie, 45). Unlike HOT, HOP allows for borderline cases of conscious mental states with this crucial differentiation between perceptual and introspective consciousness; a mental state can be conscious perceptually without being conscious reflectively from the first-person perspective. In the truck driver case, there is clearly activity happening in the driver's mind that would allow him to drive successfully, but the subject is not directly aware of his own awareness.

According to Armstrong, states of minimal awareness in which there is less activity in the brain are conscious by virtue of inner perception; there is a perceptual sense of self which allows the driver to drive without first-person awareness of this activity. Armstrong's differentiation between perceptual and introspective consciousness allows for the subtle variations that Rosenthal claims challenge HOT.

Antonio Damasio, a proponent of understanding consciousness in terms of a more spectrum-like scale of awareness, explains experiences such as the long distance truck driver by introducing an intermediary sense of self, which is what he calls "core consciousness" (Damasio 1999, 6). According to Damasio, core consciousness is apparent in moments of reflexive action, when one is engaged in physical acts that don't involve the awareness of the first-person self, such as the long-distance truck driver. People in this mode of being are able to navigate their surroundings but are not attentively focused on what their body is doing; they are "both there and not there, certainly awake, attentive in part, behaving for sure, bodily present but personally unaccounted for, absent without leave" (Damasio 1999, 6). Examples of this are activities which involve muscle memory or actions that have become so habitual that they require less attention.

However, according to Rosenthal, if there appears the appropriate thought to the effect that one is in a conscious state, then that state is conscious. Therefore, Rosenthal would most likely argue that these examples of less focused attention that Damasio and Armstrong provide are in fact conscious states, and therefore are examples of circumstances in which the appropriate HOT would appear. The fact that people cannot remember their experiences does not demonstrate that they were not conscious while

experiencing them and having HOTs about these experiences. The driver's lack of memory does not serve as an appropriate borderline case because it only exhibits a lack of memory of one's conscious state, and this does not show that there was not a HOT present. Similarly, with the cases of partial attention, Rosenthal could presumably say that they do not adequately serve as a challenge to his theory, as not remembering being conscious of a certain actions that are reflexive or automatic does not prove that the action was not, in fact, completely conscious.

However, there do appear to exist borderline cases which do not simply exhibit a lack of memory about consciousness, but rather a fluctuation of attentiveness which could serve as stronger examples of borderline cases. Giovana Colombetti, in *Varieties of Pre-Reflective Self-Awareness: Foreground and Background Bodily Feelings in Emotion* argues that the varieties in our emotional states serve as examples the layers of conscious perception which contribute to our overall first-person perspective of our experience. Colombetti argues that there exist foreground and background feelings in "bodily" states such as emotions; by "bodily" she means emotions which are experienced physically in the body. The foreground feeling is the first-person experience of the emotion while the background is what either contributes to this first-person experience or has a more subtle and less attended to quality in the subject's experience (Colombetti 2010, 297). In a single emotional experience, there are an incalculable amount of complex neurophysiological processes occurring that are not necessarily available to our first-person field of awareness. Colombetti argues that there are moments in which attention is directed outside of ourselves: for example, on objects in the world rather than internal bodily moods, such as anxiety or even pain (Colombetti 2010, 302). We can attend to

these moods when triggered to or when we introspect on our mood. However, the mood comes in and out of focus of our first-person experience. When the experience is out of focus, it is less attended to. When it is in focus, we can have direct thoughts about it or richer phenomenal experiences of it. Since it appears to be indeterminable at what degree of attention to background experience an emotion can be considered conscious to the subject, it is vague whether these background emotional experiences are conscious.

Could HOT allow for degrees of attention or focus in conscious experience?

According to Rosenthal, a state is only conscious when attended to. This is suggested in the first criterium for HOT: 'has the content of thinking one to be in a conscious state'. However, a HOT which does not itself have degrees of belief that one is in a conscious state would not allow for the subject to have degrees of conscious awareness which make these experiences vague regarding whether they are conscious or not. If the subject, in this moment of minimal awareness is not aware of being in a minimally aware state, then that state would not be conscious. However, if the subject were suddenly made aware of this minimally conscious state, the subject would be in a conscious state. Proponents of core or minimal consciousness such as Colombetti and Damasio would likely argue that Rosenthal's definition of phenomenal consciousness itself is too narrow; a subject can have an experience he or she is not fully aware of. The 'what it's like' feeling of being conscious can exist in a state which has a very low level of awareness from the first-person perspective. Still, Rosenthal would likely consider even the transition from the coming in and out of phenomenal focus to require the acquisition and loss of a HOT. Perhaps Rosenthal would argue that these background experiences are lower-order

perceptions which have not yet undergone the appropriate belief that would allow them to be conscious. If there is any degree of awareness at all, there is a HOT.

2.3 Ned Block's refrigerator case and objections

However, Ned Block's refrigerator hum case offers an example of a borderline case which seems to avoid this proposition that the appearance of HOT fluctuates alongside the fluctuating degree of attention directed at a perceptual state. Block argues that phenomenal perception is not reducible to representation because the "phenomenal character of perception goes beyond its representational content" (Block, 2010, p. 25). According to Block, there is no good reason to believe that the subject needs to be attending to his or her own representational states in order for them to be considered conscious; attention is an altogether different thing than consciousness. Similar to Colombetti, he argues that in a single moment there are millions of perceptions occurring in the subject's experience regardless of whether or not they are represented to the first-person perspective. Block calls this the overflow argument, which states that the richness of a phenomenal experience overflows our ability to think about or even report about it (Block, 2011, p. 1). Although all perceptual experience has the potential to be represented cognitively, only a small part of these perceptual experiences can be "cognitively accessed" (Block 2011, p. 1) according to Block. These perceptual experiences are not non-conscious, but also not completely phenomenally conscious either. For Block, "one can be aware of what one is not attending to", meaning that perceptual awareness can exist without first-person attention or representation of the perception (Block 2003, p. 7). Most importantly, while it is quite minimal, this awareness does seem to have

phenomenally quality. The refrigerator hum case demonstrates this borderline case of consciousness.

The refrigerator hum case is as follows. Person x is in the kitchen when the refrigerator stops humming. The moment it stops, Person x realizes that it has been humming the whole time and he did not notice until it stopped (Block, 2003, p. 7). However, in order to know that the humming stopped, Person x must have been aware that there was humming in the first place; in order to perceive a change, there must have been an awareness of the before and after. Here the differentiation between attention and awareness is significant. According to Block, attention is when one is thinking or feeling something directly from the first-person perspective, while awareness is not necessarily acknowledged fully from the first-person perspective (Block 2003, p. 7). Here, something is experienced, but does not have the subject's attention. I would argue that this awareness even has phenomenal properties regardless of the subject's lack of complete attention to these properties.

The fact that Person x has the potential to direct his attention to something in his perceptual field indicates that this something has some of the characteristics of a conscious state; it exists somewhere in Person x's peripheral awareness. This minimal degree of attention is especially apparent if, for example, the refrigerator hum were to motivate behavior (for example, if Person x becomes surprised at hearing the refrigerator hum stop or felt uncomfortable for an unknown reason when in the kitchen). As the attention on an object in a subject's perceptual field dims, it becomes less a part of his or her phenomenal experience, but the point at which it completely leaves the subject's phenomenal experience impossible, from the first and third person perspective, to

pinpoint. From the first-person perspective, I cannot cognitively access the variations and fluctuations in my perceptual experience, while from the third person perspective we do not yet have a way to empirically measure the existence and non-existence of consciousness.

To reiterate, the refrigerator case exemplifies a borderline case because it is indeterminable from either of these perspectives whether or not Person x was conscious of the hum at time x when the refrigerator was humming. All we can claim with confidence at this point is that Person x has a partial or minimal awareness of the hum at time x that is demonstrated in his realizing that it stopped. According to Block, Person x would be conscious by virtue of perceptual awareness rather than attention; however, even if conscious, it is indeterminable at what point we can claim that Person x is no longer conscious of the hum. How much could first-person awareness or focus on perceptual content decrease before we can no longer claim that this content is phenomenally conscious? The answer is that it is indeterminable.

A proponent of HOT would likely claim that this does not characterize a borderline case of consciousness for the following reason. The existence of these varying degrees of phenomenal awareness does not indicate that a HOT has not occurred at some point in the transition. This ‘coming to’ when the refrigerator hum stops, and A realizes it has been humming indicates a transition from perceptual awareness to full first-person awareness. A proponent of HOT would likely argue that this transition indicates that a HOT has occurred which allows the subject to believe that he or she is conscious of the hum. There does not appear any reason to argue that HOT cannot occur alongside varying levels of attention. For example, it is conceivable that I can have a non-conscious

thought to the effect that I am in a conscious state along with a low level of attention to this thought, thereby resulting in a minimally conscious state.

Although I admit that this may be a possibility in some cases of minimal attention to our perceptual fields, this does not exactly characterize what is happening in the refrigerator hum case. First of all, this attention would have to be non-conscious as well, as HOT is unconscious, and increased attention suggests becoming increasingly conscious of HOT. However, even if this attention is somehow non-conscious as well, it characterizes a different kind of case. Specifically, it characterizes a case in which there is an uncertainty about an experience that becomes clear with increased attention. A HOT alongside varying attention levels characterizes refrigerator hum case 2. In refrigerator hum case 2, when the hum stops, the subject experiencing the hum with minimal attention before it stops suddenly becomes confident that there was a hum at the moment that the hum stops. He was uncertain about the hum before; therefore he had a partial belief-like state about his consciousness of the hum. There was a low level of attention directed at the belief-like state itself, making it uncertain. However, after the hum stops, his consciousness of the hum is settled as true.

This scenario depicts an experience where there is no indeterminacy that there is a mental state occurring to the effect that one is in a conscious state, but the attention directed at the belief is barely there until something triggers the attention to increase. Although this case is possible, it does not eliminate the possibility of Block's refrigerator hum case, which is a more plausible case. In Block's case, the subject does not become more confident in his belief about the hum; instead, the subject did not even realize there was a hum that was clearly being experienced. In this case, it is indeterminable whether

the subject was conscious of the hum before it stops. There is an element of surprise at the realization that he was hearing the hum the entire time. This is a case of vague consciousness which is not a case of vague believing because there could not have been any prior “minimal” belief that the subject was in a conscious state. Even if the HOT was accompanied with varying levels of attention, if there was any belief to the effect that the subject is in a conscious state, the subject would have been attending to the hum (but the subject was not attending to the hum before it stopped). In the refrigerator hum example, the perception of the humming was not experienced fully by the first-person self, but there still existed a perceptual awareness experienced by some other part of the subject which was part of the subject’s perceptual field of awareness.

However, some philosophers argue that despite examples such as the refrigerator case, phenomenal consciousness cannot have borderline consciousness because it differs in kind from other things which admit vagueness. In *Vagueness and Zombies*, Jonathon Simon argues that phenomenal consciousness can never have borderline cases because ‘consciousness’ does not identify the same kind of usage norm that ‘baldness’ does. A case which is vague is not simply vague because it is indeterminate; there are other factors (Simon, 2016, p. 6). In the case of baldness, having 5 hairs is a borderline case of baldness when it is vague if baldness is equivalent to 5 hairs. According to Simon, the reason that this is a borderline case is not just that it is indeterminable whether a person who has 5 hairs is bald, but also that there is “an explanatory usage norm accounting for the feature of the case you are responding to” (Simon 2016, p. 8). By “explanatory usage norm” Simon means that it is a result of the attitudes of people in a given social context that we find 5 hairs to be vague, rather than an a priori principle of baldness which is

objectively true in all contexts. The same is true for tallness. When I say that a person is tall the context is implied. For example, when saying that a 5in blade of grass is tall, I am speaking under the implicit context of blades of grass rather than people.

In the case of phenomenal consciousness, Simon argues that there are no explanatory usage norms as in the case of baldness or tallness which explain the appropriate context of calling something conscious. The indicator of whether a state is phenomenally conscious is how it feels to be phenomenally conscious. Phenomenal consciousness, unlike things which can have borderline cases, is not the product of linguistic usage norms or context, therefore it cannot itself be vague (Simon, 2016, p.16). Rather, phenomenal consciousness is a physical thing that is “really present in the world” (O’Rourke, 10). Simon argues that although we may not be aware of the cutoff between unconscious and conscious perception by reference to physical facts, our ignorance about these physical facts does not give us reason to conclude that experiences which seem vague to us are vague. There are “hidden features that we do not, at present, fully understand” (Simon, 2016, p. 17) from our human knowledge.

Simon’s argument is that the mere fact that we do not know which states are conscious from a scientific standpoint is not a good reason to believe that consciousness is vague. Michael Tye agrees with this claim, and goes further in saying that even from our first-person perspective there can be no vagueness to our experience. It’s difficult to believe that there can be vagueness to an experiences such as feeling pain or seeing. As long as there is a way that it feels to be experiencing, there cannot be borderline cases. Michael Tye argues the following about the lack of vagueness to phenomenal experience:

“The intensity level or richness of a subject’s experience can vary—think, for example of the experiences one undergoes when one is falling asleep or just waking up, and contrast that with the experience one has when looking at a garden full of flowers on a bright

summer's day—but in each case there is something it is like for the subject (Tye, 2002, p. 681).

According to Simon and Tye, the fact that there are degrees of consciousness is not incompatible with a state being determinably either conscious or not conscious. Even with minimal consciousness levels, such as in the refrigerator hum case, there is either something it is like to be experiencing it or not. Applying this concept to HOT specifically, the argument would likely be that our phenomenal experience is a direct measure of whether a HOT has occurred. If we are uncertain about whether our experience is phenomenally conscious, this does not necessarily mean that it is vague.

However, although these arguments are compelling in that they take seriously our first-person experience of our experiences, these arguments fail to address the vagueness of conscious experience. There is an important difference between the vagueness of an experience and vagueness as to whether there is an experience (Tye, 1996). The vagueness of whether there is an experience is what Simon and Tye are claiming does not exist; there cannot be a vagueness to our own first-person knowledge of our experience. There is no question as to whether I am seeing red or touching a surface, even when my consciousness of these events is partial. The vagueness of the experience itself, however, characterizes the degree to which the experience itself is experienced by the subject. Rosenthal's conditions for phenomenal consciousness does not allow for a subject to be unaware of an experience while the experience is phenomenally conscious. In other words, it does not allow for a degree of consciousness which is not experienced fully by the subject's first-person perspective such as the refrigerator hum case or Colombetti's account of emotional background experience.

Although in the refrigerator case it is indisputable that the person is having an experience when perceiving the hum, it is indeterminable whether we can consider the

subject, in this moment, to be conscious of the hum if there existed only a partial awareness that was not even acknowledged by the subject during the time before the refrigerator stopped humming. The same is true for the emotional background experience. It is possible to determine whether an individual has a conscious experience of a certain emotion, but the varieties and fluctuations of this emotional experience are impossible to claim as determinably conscious or unconscious within the binary universe of Rosenthal's standard for consciousness.

Furthermore, Simon and Tye appear to be relying on our own intuitions about our sense of self in order to indicate the moment we become phenomenally conscious. To them, each case is obvious; I am either phenomenally conscious or I am not. However, the question about borderline cases is not whether an experience is conscious from our first-person point of view, but whether the consciousness of an experience can be vague itself. Answering this question requires more than our first-person perspective. For Simon, Tye, and Rosenthal, phenomenal consciousness and first-person awareness are the same thing -- but this conflation fails to address what is happening in, *e.g.*, the refrigerator hum case, where there is awareness of an experience without attention directed at it. Thus, as Block addresses, attention and awareness are not necessarily concurrent because perceptual experiences which are not first-person accessible are still conscious by virtue of being experienced perceptually.

There is a threshold of attention in these scenarios that is vague itself, causing there to exist borderline cases in which it is indeterminate whether the level of first-person attention is high enough to count as conscious. In the next section, I will draw

from the phenomenology of John-Paul Sartre, a 20th century French philosopher, to continue the argument for borderline cases of consciousness.

III. Sartre's 'in-itself' and Borderline Cases of Consciousness

In this chapter I introduce John-Paul Sartre's theory of the 'in-itself', the most fundamental and basic ontological level of self, in order to support the claim that there are cases of borderline consciousness experience in which the first-person self is not fully present. In *Being and Nothingness*, Sartre argues that there exists a pre-reflective self-consciousness, which is an "immediate, non-cognitive relation of the self to itself" (Sartre BN, liii). To Sartre, all experience is necessarily conscious by virtue of having the self-referential feature of belonging to the appropriate self.

Sartre takes the human being to be made up of "facticity and transcendence" (Sartre BN, 56): facticity is the inescapable, physiological reality of the body and the body's functions, or the "fact of man" (Sartre BN, 58) while transcendence is the ways in which we escape this fact with self-creation and will. Unlike Rosenthal, Sartre finds it necessary to grant consciousness to every physical and mental human state, as "there is no inertia in consciousness" (Sartre BN, 61). There is no possibility that one conscious state can give consciousness to another state without causing an infinite regress of consciousness causing states. Every state must fundamentally be conscious of itself as belonging to a self.

According to Sartre, something cannot be unconsciously conscious of having a certain content. At the most basic level, before any external stimuli, a state has the

content of itself by virtue of being or existing. Sartre describes consciousness as having a “translucent” property (Catalano, 34), as its content is whatever the external world makes us conscious of. The self of the pre-reflective consciousness is one that Sartre calls the “in-itself” (Sartre BN, 120). In this in-itself,

“there is not a particle of being which is not wholly within itself without distance...A is A means that A exists in an infinite compression with an infinite destiny” (Sartre BN, 120).

By “without distance”, Sartre means that the self of the ‘in-itself’ is a presence to oneself that is not reflectively acknowledged, but rather the identity relation is known reflexively. Sartre argues that this referential relation is necessary to and prior to any subject’s awareness of mental states (Sartre BN, 121).

Sartre’s concept of the ‘in-itself’ offers support of the view that perceptual experience has borderline cases, in which the experience is not attended to fully by the first-person perspective. The in-itself is the self of the pre-reflective consciousness, in which there is an implicit awareness of self. Although Sartre’s view on consciousnesses is radical in that he takes all mental states to be conscious such as dreams, repressed desires, and implicit beliefs⁵, he argues that there exist cases in which the subject is minimally aware of an experience that is occurring consciously in the in-itself. Sartre argues that the subject himself does not appear in some acts of consciousness. Sartre’s example of what he calls “nonpositional consciousness” (Sartre BN, 48) is the following:

“When I run after a streetcar, when I look at the time, when I am absorbed in contemplating a portrait, there is no I. There is consciousness of the streetcar-having-to-be-overtaken, etc., and nonpositional consciousness of consciousness. In fact, I am then plunged into the world of objects; it is they which constitute the unity of my

⁵ Sartre argues that the Freudian conception of the unconscious which is shared by many philosophers fails to answer how the “repressed drive can disguise itself if it does not include (1) the consciousness of being repressed [and] (2) the consciousness of being pushed back because it is what it is...” (Sartre BN, 53)

consciousness; it is they which present themselves with values, with attractive and repellent qualities – but I have disappeared; I have annihilated myself. There is no place for me on this level. And this is not a matter of chance, due to a momentary lapse of attention, but happens because of the very structure of consciousness (Sartre BN, 48)”.

What Sartre means by an annihilation of himself is that in these moments of absorption with the external world, there is no awareness of the self as experiencing. The world of objects is experienced only perceptually. Here, there is no belief that the subject is in a conscious state because, as Sartre argues, there is no subject present. This world of objects is experienced by the in-itself: the “consciousness in its fundamental selfness” (Sartre BN, 103). The in-itself is the self which does not contain a conceptual notion of self; it is conscious by virtue of being itself and having the content of being itself. Sartre claims that it is not a lapse in attention which causes the subject to not appear, but rather that the experience of being absorbed in a painting is being experienced by the self of the in-itself.

I do not wish to suggest that every perceptual state is conscious, as Sartre attempts to do; however, the notion of the in-itself challenges the idea that the subject of experience is a singular, one-dimensional thing which undergoes direct experience as HOT theory suggests. This is significant because if, instead, the experiencing subject is considered to encompass cases of more minimal or bodily awareness, then the subject can incorporate the refrigerator hum, or the following example proposed by Searle: Although I might not be attending to the “feeling of the chair against my back...the tightness of my shoes... all these phenomena are part of my conscious awareness” (Searle, 1992, p. 137) As Block’s overflow argument claims, we are conscious of a great number of things in our surroundings in varying degrees which we do not directly perceive from the first-person perspective. The significance of these cases in which the

first-person perspective is not present, at least fully, in the experience of a certain perceptual experiences serves to show that the degree of consciousness of perceptual experience cannot be expressed necessarily via HOT.

The fact that there exist borderline cases of conscious experience does not suggest that we should not take seriously our first-person experience of consciousness. However, consciousness may not be a thing which has sharp boundaries in a physical sense, or at least one which has been discovered empirically. Since consciousness is a concept which picks out a particular part of human experience, it can be treated in the same way that we treat concepts such as baldness in that there is no physical description of the phenomena beyond our experience of it. We don't yet have a robust explanation of the neurochemical brain processes which cause consciousness, therefore there is no way to determine whether there are sharp boundaries to consciousness. This is not a reason to say that there aren't sharp boundaries beyond our physical knowledge, but at this point if the term consciousness is picking out an experience rather than a physical process, it must have vague instantiations due to the degrees of awareness and attention in first-person perceptual experience.

Given that HOT is cannot be vague and, as I have attempted to argue, phenomenal consciousness can be vague, HOT is not a necessary condition of conscious perceptual states.

Conclusion

Rosenthal's HOT does not accommodate borderline cases such as the ones described above, therefore it does not address the complexity of phenomenal consciousness. HOT theorist Gennaro offers an account of HOT in which the thought is not an entirely separate mental state from both the lower order and higher order conscious state, but rather there are multiple parts of the HOT: perhaps an account such as this one could accommodate for borderline cases, if there were more than one necessary condition for a conscious mental state that included HOT and something else. I find it plausible that there could be a way in which HOT could maintain the intuition that consciousness is not an innate feature of the perceptual state itself, without suggesting an on/off feature of consciousness in which a subject is either aware of his or her mental states or not. Alternatively, a theory of HOT which calculates levels of consciousness in terms of quantity of HOTs, or something resembling this could be a way to preserve intuitions against higher order perception without threatening discussions surrounding the existence of animal consciousness and animal pain.

In later works, I hope to continue to bring continental thinkers, and especially phenomenologists such as Husserl, Sartre, and Merlau-Ponty into the discussion in order to explore ways of viewing consciousness as a complex spectrum of pre-reflective and reflective awareness, both perceptual and first-person awareness.

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