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PTSD AND EMOTIONALLY AUGMENTED PERCEPTION:
AN ARGUMENT FOR DIRECT REALISM

A Thesis
presented in partial fulfillment of requirements
for the degree of Master of Arts
in the Department of Philosophy and Religion
The University of Mississippi

by

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August 2016

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ABSTRACT

Post Traumatic Stress Disorder (PTSD) causes behavioral and emotional problems. The emotions associated with the disorder, research has shown, literally change and individual's perception. Those who study the effects of emotion on perception generally accept an indirect theory of perception like representationalism. Yet, an indirect theory does not seem to be adequate to account for the immediacy and phenomenology of PTSD. Therefore, a theory that can better account for these is needed. I suggest a form of direct realism – the combined scientific-philosophical theory that combines John Campbell's 3-place relation and James J. Gibson's direct perception of information through ambient light – is such a theory. In addition, looking at the variability of normalcy may account for why there is not 100% attrition of PTSD across individuals exposed to the same or similar traumatic events.

DEDICATION

This thesis is dedicated to everyone who helped and guided me through times of extreme stress and anxiety. I thank my wife, Kristal, who convinced me to go to college. I would also like to thank my mother and my children who are and have always been my inspiration.

I wish to make a special dedication to my daughter, Melissa, who I lost along the way. Rest easy baby. Daddy loves you.

ACKNOWLEDGMENTS

I express my deepest appreciation to my advisor, Dr. Donovan Wishon and my committee members, Drs. Robert Barnard and Timothy Yenter. I could not have financed my studies without the assistantship provided by the Department of Philosophy and Religion and the University of Mississippi.

I would also like to thank Dr. Ronald Bombardi, my mentor and advisor during my undergraduate studies at Middle Tennessee State University and beyond, for encouraging me to study philosophy.

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CHAPTER 1

INTRODUCTION

There exists a condition that is widely recognized throughout psychology, as well as by the general public, known as Post Traumatic Stress Disorder (PTSD). The commonly accepted view is that PTSD causes behavioral and emotional problems that lead to relationship and other social interactional dysfunctions. What is not commonly purported is that PTSD may actually change the way the sufferer perceives the world such that emotions associated with the experiences that culminate into the condition of PTSD have literally changed the individual's perception.

In recent years research has shown definitively that emotions literally and effectually augment perception. Augmented perception for PTSD, given that there is not a 100% attrition of the disorder across individuals exposed to the same or similar traumatic events, suggests that there might exist a *sliding scale of perceptual normalcy* (SSPN) for individuals that perpetuates and adjusts throughout one's experiential life. Psychologists who have studied the effects of emotion on perception have deeply embedded philosophical theories pertaining to perception, specifically how we perceive the world and what precisely we perceive, which they tend to overlook, ignore, or take for granted. The elucidation of a more precise theory of the world as we experience it may offer some insight into how one might better understand and possibly treat

PTSD. I will argue that a direct theory of perception is needed to account for interactions with the physical world that prompt emotion, which in turn augment perception.

I will begin with a description of PTSD and what research has shown regarding the effects of emotion on perception, firmly establishing that emotion augments perception. I will follow this with an expansive look at the altered view of the world experienced by PTSD sufferers. With an altered view established I will point out why a direct realist account is needed and address a typical challenge. Combining the theories of John Campbell and renowned psychologist James J. Gibson, I will argue that such a theory withstands the challenge and fully accounts for the way in which PTSD sufferers experience the world. Finally, I will point out that a direct realist theory of perception is needed to account for the immediacy and phenomenal characteristics of PTSD and, combined with an understanding of the sliding scale of perceptual normalcy, might have profound implications for the treatment of PTSD.

CHAPTER 2

PTSD

The nomenclature and nosology of the anxiety disorder presently referred to as PTSD has changed many times over the years but has been included in every edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM): as *gross stress reaction* (DSM-I, 1952), *transient situational disturbance* (DSM-II, 1968), and *post-traumatic stress disorder* (DSM-III, 1980 and forward).¹ Prior to its appearance in the DSM, the condition was referred to as *shell shock*, *combat neurosis*, and *battle fatigue*. The militaristic labels of the noted condition resulted from the preponderance of military personnel who had been in combat situations, experienced the same or similar trauma, and reported similar associative problems. It was not until DSM-III (1980), and only through the specific focus of the Reactive Disorders Committee, that the multitude of previous research, which had been guided by various frames of reference by many different researchers, was synthesized into a criteria for diagnosis of *post-traumatic stress disorder*: “development of characteristic symptoms following a psychiatrically traumatic event that is generally beyond the realm of normal human experience.”² Such trauma is clearly not limited to combat experiences.

¹ Philip A. Saigh and J. Douglas Bremner, *Posttraumatic Stress Disorder: A Comprehensive Text* (Boston: Allyn and Bacon, 1999), pg. 1-17.

² *Ibid*, 5.

What Constitutes PTSD?

There are seven (7) criteria that must be satisfied in order for an individual to be diagnosed with PTSD according to the most recent edition of the DSM (DSM-5, 2013). These criteria explicitly delineate the necessary and jointly sufficient conditions for PTSD: how one experiences the traumatic event, the intrusive symptoms, avoidance behaviors, alterations in cognition or mood, and alterations in arousal or reactivity that must be present for longer than one month. The symptoms must also cause significant social or other dysfunctions and must not be due to medication, alcohol or previously existing medical condition. There is no one scenario that is paradigmatic of a case of PTSD.

What Is PTSD Like?

For our purposes let us first examine the experiential nature of PTSD. Having been exposed to the types of trauma that could potentially lead to PTSD, those *beyond the realm of normal human experience*, it is unsurprising that the PTSD sufferers' concept of normalcy is altered. They are likely to have nightmares, experience random, seemingly unprovoked moments of severe sadness or hypervigilance, or become introverted to the point of agoraphobia; the range of possibilities is vast.

A study of children displaced as a result of the Russo-Finnish War (1939-1940), conducted by Bradner (1943), reported that “even a year after the war, the sight of ruins had a profoundly depressing effect upon the children... war films, saddening war pictures in illustrated magazines, reports of war of any kind still caused such symptoms of wartime to return at any given moment.”³ These places and artifacts, though correlated and associated through cognitive

³ Ibid, 3.

processing to completely different places and artifacts, symbolize the sorts of objects in the world that are known to the observer to have a certain connotation associated with them.

Another study, of German concentration camp survivors, conducted by Etinger (1962), revealed that “subjects experienced ‘painful associations’ that could occur in ‘any connection whatsoever, from seeing a person stretching his arms and associating this with his fellow prisoners hung up by their arms under torture, to seeing an avenue of trees and visualizing long rows of gallows with swinging corpses.’”⁴ This observation might lead one to suspect that what is at work are mental images, but what seems to point to something starkly different are the ‘painful associations’ with ‘any connection whatsoever’. A *connection* is exactly what these survivors had. The information, which included their physical and psychological standpoint, triggered the painful associations upon inspection of the environment that rendered similar information.

Still, the question of this section remains; what is PTSD like? One typical way of thinking of a PTSD experience is that of flashbacks. The sufferer experiences intrusive memories that place her in the moment of the traumatic event and, in serial fashion, she re-experiences the events in the present *as if* she were in the past. The connection between past and present has to do with the incorporation of time with the stimulus information in both the logical and phenomenal experience as it relates to the past. Often, however, when a PTSD sufferer is in the state of processing a traumatic memory it is less like a flashback and more like a flash-forward of the past experience into their present state of awareness. Though it is impossible to look inside the mind of another and see their mental state for any given experience, an analysis of this sort of experience might offer some clarity.

⁴ Ibid.,

In the moment of being overtaken by the traumatic memory the experiencer is simultaneously experiencing: 1) the trauma of the past, 2) the present state of experiencing the present time and place, and 3) the present state of experiencing the present time while also experiencing 4) the memory of the past, which involves experiencing 5) the trauma anew at least in part if not in full. The PTSD sufferer also has, built into this experience of the traumatic memory, both the past and the present, which is further complicated as the experience of, “past-as-past... past-as-present... *and* present-in-reference-to-past and present-in-reference-to-past-as-present.”⁵

The following scenario is an attempt to explain what such a convoluted memory might be like for a PTSD sufferer. I do not suggest that this example adequately conveys the full experience, as it would be for the sufferer. This is merely an attempt to place the process memory in a context.

Pat arrives to find no one home (2015). She is overcome by the memory of her ex-husband kidnapping their kids and hiding them for several months (2012). She tries to call her husband, but no one answers (2012). The police come to her house and inform her that she cannot report the children missing at that time (2012). She frantically calls her husband; he says, “Hello,” (2015/2012) several times, but his voice sounds foreign (2015). She says, “Where are my kids!?!” (2015/ 2012). Her husband says, “We’re at my mom’s” (2015), while the words of her ex-husband, “*You’ll never see ‘em again*” (2012), resound clearly in her mind. She hangs up the phone and sits in the floor with various parts of the three-month ordeal from 2012 – not knowing where or how her children were or if she would see them again and when – randomly bursting into her mind (2015). She is simultaneously in the past, in the present, and in the present

⁵ Mary Jeanne Larrabee, "The Time of Trauma: Husserl's Phenomenology and Post-Traumatic Stress Disorder," *Human Studies* 18, no. 4 (1995): pg. 357, accessed June 30, 2015.

affected by the past, as well as helpless in the past, and the past as present, as a result of being in the present.

Memory is clearly a proponent and/or product of the survival instinct for humans, although it seems, at least for the PTSD sufferer, that traumatic memories, though they satisfy the necessary goal of alerting the experiencer to potential threats, have the added effect of diminishing the quality of life of the PTSD sufferer due to the overwhelming, convoluted effect the process has on the individual. Feeling the interactions between the objects of the world in both present and past, in the full-bodied sense that is encapsulated in the memory of interlaced-information stored, undoubtedly has such an overwhelming effect.

What Precipitates PTSD?

The basis for PTSD being the experience of a traumatic event *beyond the realm of normal human experience* suggests and requires that there is some generally accepted state of ‘normal’ for all experiencers. Research regarding PTSD consistently uncovers a “dose response relationship between the severity of exposure to trauma and the onset of PTSD.”⁶ What is *normal* for one would not necessarily be normal for others but, varying only by degrees, there must be some such state that we can call the range of normal even if only for the individual. It appears that perception, affected by emotion in a real-time real-world way must have some basis of normalcy. This *basis of normalcy* is likely rooted in our genetics and is developed as the individual develops throughout childhood and adolescence through nurturing, education, and individual experiences. I suggest that the level of normalcy one establishes in youth and adolescence is the level they carry with them into adulthood, which, therefore, precipitates their

⁶ Matthew J. Friedman, "Phenomenology of Posttraumatic Stress Disorder and Acute Stress Disorder," Oxford Handbooks Online, 2008, pg. 70, accessed June 30, 2015.

reaction to and perception of future experiences as normal, abnormal, and traumatic. Stockholm syndrome⁷ and other psychological phenomena clearly illustrate how one's sense of normalcy can be altered.

The variableness of what is normal for the subject on this view can be represented by what I refer to as the Sliding Scale of Perceptual Normalcy (SSPN). This is not altogether dissimilar with how psychologists characterize what they call trait-anxiety; one's level of trait-anxiety is responsible for the modulation emotion affects on attention.⁸ The obvious difference being that trait-anxiety is focused on a person's tendency to be predisposed to a certain level of anxiety for any given situation. The SSPN, on the other hand, points to the standing variable state of normalcy for any given individual at the moment of exposure to traumatic events or situations, not just how likely they are to see something as sad or happy. When one's natural exposure to trauma is greater, the likelihood of PTSD onset is greater. I propose that one's base of experience (one's norm) and the severity of the trauma (its life-threatening capacity as well as its distance from the experiencer's norm) can be directly associated with one's tendency to develop PTSD.

Based on the SSPN, one's state of normalcy, if the traumatic event or situation experienced is drastic enough, can precipitate a constant state of PTSD throughout the remainder of one's life. Likewise, if one's state of normalcy is benign enough, experiencing the trauma of rape or combat could take their perceptual acuity beyond any conceivable sense of normalcy, such that the experiencer's life becomes intolerable.

⁷ "Stockholm syndrome is considered a complex reaction to a frightening situation... [with] three central characteristics: * The hostages have negative feelings about the police or other authorities./* The hostages have positive feelings toward their captor(s)./* The captors develop positive feelings toward the hostages." In addition to this definition it is important to note that Stockholm Syndrome is not included in any edition of the DSM. "Stockholm Syndrome," *Farlex Partner Medical Dictionary*, accessed March 28, 2016, (<http://medical-dictionary.thefreedictionary.com/Stockholm+syndrome>).

⁸ Emma Ferneyhough et al., "Anxiety Modulates the Effects of Emotion and Attention on Early Vision," *Cognition & Emotion* 27, no. 1 (2013): pg. 8, accessed June 30, 2015.

CHAPTER 3

AN ALTERED PICTURE OF THE WORLD: EMOTION, ATTENTION AND PERCEPTION

It seems obvious to state that the things one perceives have the ability to create various emotional states. *How* objects in the world are capable of acting on mental states (i.e. emotional states) seems less obvious. The mind/body problem aside, there is no doubt a direct relation between mental states and physical responses (e.g. physical reactions to mental states), which would suggest the reverse is likely as well. Research has shown that individuals forming the facial expressions associated with sadness or anger inadvertently feel sad or angry.⁹ The physical, in such cases, is directly acting on the mental.

Concomitantly, the sight of a dog (a beloved pet) being ran over by a car will create a deep sense of sadness and compassion in experiencers to the point of sending some to the local animal shelter to adopt a pet. Others might be severely angered by the site of a young person racing their vehicle through an intersection and nearly hitting an elderly person who is trying to cross. The opposite being the case – emotion changing how and what one perceives – escapes the grasp of many who study emotion or perception. This could be because many who study these fields, both in psychology and philosophy, do so in isolation. Even to those who study perception, it is generally thought of as strange to consider that emotion can and does alter

⁹ Michael Tye, *Ten Problems of Consciousness: A Representational Theory of the Phenomenal Mind* (Cambridge, MA: MIT Press, 1995), pg. 127. Importantly, there was no visual perception in this study. The research did not involve mirrored responses and the subjects were not aware that the facial expressions they were told to emulate were those generally associated with any particular emotions.

perception.¹⁰ Nevertheless, there are those who have endeavored to study the effects of emotion upon perception. From these studies some very important claims and discoveries have been advanced.

Emotion primes the visual system for the purpose of self-preservation or well-being and is responsible for drawing the experiencer's attention toward threatening stimuli or causes one to be slow to disengage.¹¹ Accepting such a claim still seems less radical than to claim, "emotion actually affects how people see."¹² Both of these statements point to the discoveries that emotion and likewise attention have an effectual relationship with perception. The specifics of the studies are not cursory. They point to the very realistic augmentation of what and how one perceives as a result of sadness, anxiety, happiness, and anger.

The state of alarm brought on by the belief that something in one's purview might, or most likely could, cause harm or render a negative situation rather than a positive one would strike no one as odd or in need of discovery. Most of us, including psychologists and philosophers, are aware and acceptant of a survival mechanism that renders us capable of avoiding fire, a falling tree limb, or an erratic driver without some special process that makes us see these objects differently than people not in the same situation. Yet, even these basic, momentary instances show that emotions have direct effects on what we perceive. These reactionary instances may not affect higher-order perception such that overall perception is augmented but there is a clear tendency to avoid those things that we perceive as likely to cause a negative outcome and to be drawn to those things that are most likely to create a positive outcome.

¹⁰ Jonathan R. Zadra and Gerald L. Clore, "Emotion and Perception: The Role of Affective Information," *Wiley Interdisciplinary Reviews: Cognitive Science WIREs Cogn Sci* 2, no. 6 (2011): np, accessed July 27, 2015.

¹¹ *Ibid.* Zadra and Clore actually write "in the interest of minimizing negative and maximizing positive outcomes."

¹² E. A. Phelps, S. Ling, and M. Carrasco, "Emotion Facilitates Perception and Potentiates the Perceptual Benefits of Attention," *Psychological Science* 17, no. 4 (2006): pg. 4, accessed June 30, 2015.

Emotion Augments Perception and Attention

The amygdala – the portion of the brain responsible for feelings, visual learning and memory – is thought to respond automatically to effective stimuli, and seems to be dependent on relevance for its reaction.¹³ One particular study showed that the amygdala only responded to the names of individuals that the subject liked for the positive aspect of the study and only to the names of disliked people for the negative aspect of the study, which seems to suggest that high- and low-levels of the brain are constantly interacting, making it seem at least likely that emotion affects perception.¹⁴ Perspective is undoubtedly affected by emotion. Though this may not directly show that perception is augmented, there is a definitive change. The narrowing of viewpoint under stressed conditions could be seen as a survival mechanism. People who are stressed tend to see things more narrowly whereas those experiencing positive emotions see things more broadly: the forest or the trees analogy.¹⁵ Humans have a tendency to focus on things in a broad (global) sense, but often times there are situations that bring about a need or a desire to process more specifically, or locally.

Survival would seem to be arbitrated more by dangers than opportunities, as it is only when dangers are avoided that opportunities are possible. Fear and sadness are motivating emotions and can cause the experiencer to see threats more readily or seek out change. It has been proposed, and findings have supported the notion, “that stress narrows attention [and] positive emotion broadens attention.”¹⁶ In a simplistic way, a tendency to process information locally or globally can be thought of in the general context of attending a party. When you walk in – provided it’s a party that you are comfortable being at and believe there to be a general

¹³ Jonathan R. Zadra and Gerald L. Clore, "Emotion and Perception: The Role of Affective Information," *Wiley Interdisciplinary Reviews: Cognitive Science WIREs Cogn Sci* 2, no. 6 (2011): np, accessed July 27, 2015.

¹⁴ *Ibid.*,

¹⁵ *Ibid.*,

¹⁶ *Ibid.*,

acceptance of your presence – you notice the vastness of the room and all those in attendance and you do not focus on any particular individual, at least at the outset. Later, during the party you find yourself speaking to another or to a few in a small group, but given the general congenial nature of all those in the room and those in your group you hear the music as well as distant chatter intermittently with the conversations between yourself and the individual or small group with which you have attached yourself. Then, someone brandishes a pistol. And, it seems that no one has noticed the gun except you. Instantly, instinctively, your processing becomes less global and more fixated on the person with the pistol, locally focusing on the person’s body language, trying to determine the purpose of his brandishing the pistol – whether or not the pistol is real, if the wielder intends to fire it, and many other possible considerations. The stress of seeing the gun can also be amplified by past experiences with individuals wielding weapons in a crowded room or otherwise. The emotions that you might have associated with guns are what causes the narrowing of your purview. Studies have shown that “fear and anxiety bias attention toward threatening stimuli.”¹⁷ The enjoyment of the party and present company is thereby set aside or even displaced by the more narrow view of the pistol.

An experiment was conducted, testing the responses of subjects who were unaware of the intent of the study, by having them focus on a central point on a screen and showing various images of Gabor patches of differing contrasts, intermittently with fearful and neutral faces, both right-side-up and upside-down. Results showed that “the level of contrast needed to perform the orientation discrimination task was lower when the stimuli were preceded by a fearful face than when they were preceded by a neutral face... the mere presence of a fearful face heightened contrast sensitivity,” which offered the first demonstrative evidence that “emotion actually

¹⁷ Ibid.,

affects how people see.”¹⁸ A second experiment focused on emotional interaction with attention also showed that the presence of a fearful face heightens ones sensitivity to contrast. Anyone who has found themselves walking in unfamiliar territory and has seen something out of the corner of their eye that they identified as a potential danger will be familiar with this effect. Fear has possibly a stronger effect on perception than any other emotion because it initiates our fight or flight response.

A supporting study showed that not only can emotion enhance and improve attention and perception it can also impair them.¹⁹ The benefits and costs were assessed based on the speed of processing as opposed to merely measuring the benefits of contrast sensitivity in the previous study by Phelps et al. What it showed was that anxious individuals are drawn more to threatening stimuli or are slow to disengage from dangerous or threatening stimuli than those who are less anxious.²⁰ It is also shown by this study that an individual’s sensitivity to contrast is not only affected in a controlled way, but that the effect on attention is based on the individual’s level of tendency towards anxiety. An individual’s trait-anxiety pre-determines their disposition to engage or ability to disengage from fearful faces. This has implications regarding the SSPN as well.

Implications of Augmented Perception

The information gathered in these and other specifically focused research experiments show definitively that emotion has a direct effect on what and how one perceives. Not only is the observer’s assessment of the world altered but his focused attention is also impacted. If we link

¹⁸ E. A. Phelps, S. Ling, and M. Carrasco, "Emotion Facilitates Perception and Potentiates the Perceptual Benefits of Attention," *Psychological Science* 17, no. 4 (2006): pg. 1, accessed June 30, 2015.

¹⁹ Emma Ferneyhough et al., "Anxiety Modulates the Effects of Emotion and Attention on Early Vision," *Cognition & Emotion* 27, no. 1 (2013): pg. 1, accessed June 30, 2015.

²⁰ *Ibid*, 6.

this information back to the phenomenological assessment of how a PTSD sufferer experiences the world in §2.2, there is little doubt that someone with PTSD sees the world drastically different from anyone else.

CHAPTER 4

WHY WE NEED A DIRECT REALIST ACCOUNT

Accepting all that the evidence suggests, why then do we need a direct realist account of perception? Much of the scientific world generally accepts something like representationalism in regards to perception. The theory suggests that all that observers are directly aware of are their internal representations. Considering the research and evidence for emotionally augmented perception there appears to be immediacy in perception; objects in the world appear to have a direct link with observers and not merely a causal link. There is information being transmitted and picked up on in a direct way that does not depend on cognitive processing or internal representations. The information, rather, is what the cognitive processing or internal representations are about. This suggests that a direct theory is needed to account for our immediate interaction with the world. But, let us first take a brief look at an indirect theory like representationalism in order to frame the juxtaposition.

Representationalism: A Brief Overview

The terms associated with representationalism, and direct realism for that matter, are used in many different ways throughout philosophy and even in psychology. My usage of these terms may not directly line-up with the way that others use them, but for my purposes my usage represents the way in which I understand these theories.

There is a sense in which a representationalist theory seems consistent with, and perhaps even supported by, emotionally augmented perception. Perception is the product of cognitive processing of internal representations that are caused by the objects and their features in the external world. Representationalists differ, however, on whether what one perceives is the representational vehicle (the non-representational features of internal representational states), its representational contents, or some sense of both. Nevertheless, the suggestion is that observers can only know their interpretations (i.e. mental representations) or ideas of the way the world is because there is no direct connection with the world, only a causal link. On this notion we can only infer objects in the external world based on our internal theories of the objects, though they may be altogether quite different.

Representationalism Gets The Phenomenology Wrong

Representational theories of perception cannot escape the disconnect their theories create between objects and observers. They equate perceptual experience to mental processing of causal stimuli. This way of thinking focuses the problem squarely with the sufferer and detaches the problem from objects in the world and the experiences associated with them; and, therefore, does not give an adequate account of emotionally augmented perception as it is experienced by PTSD sufferers. For PTSD sufferers the phenomenology *is* the experience. Husserl's notion of *telos* suggests that human subjectivity is fundamentally changeable such that a PTSD sufferer could reprocess original traumatic experiences to fit current situations both serially and nonserially, as explained in §2.2. One sort of what Husserl calls temporalizing – flashbacks – requires one to view memory as a process. By presupposing an *encoded* process rather than merely *contents* as representationalism suggests, it can be accepted that one can *re-process* a past process in a

different way and thereby recreate the past. This sort of processing affects the whole person making it more than just a mental experience.²¹ A flashback, however, is serial in nature and follows the course of action of the original experience.

Whereas flashbacks occur serially as a replay of events in a chronological-type fashion, the nonserial experience is quite complicated. The memory associated with it varies from serial to non-serial, the content of the memory varies from representational to process memory, and it also fluctuates from simple to complex in its detail.”²² Based on *passive associations*, a PTSD sufferer can encounter something in present time that their consciousness associates with something in the past that activates appropriate behaviors without the sufferer being actively involved or aware.²³ PTSD can activate a conscious response without the individual being actively involved in their behavioral changes. This seems to be directly related to basic survival and shows how one’s emotional state can alter one’s behavior and responses to their environment, implying that they see the world physically different.

Even though part of the content of the phenomenal effect that PTSD sufferers experience is representational, the representationalist theory of what is being experienced does not seem up to the task of accounting for the full sense of the experience. To view perception as representational content – detached from relevance to actual objects of association in the world – oversimplifies the situation at the risk of failing to understand what is actually going on for the PTSD sufferer. A slideshow of representational content seems unlikely to produce such an effect. Furthermore, the notion of objects having a causal effect seems difficult to account for if there is no direct connection between objects and the observer.

²¹ Mary Jeanne Larrabee, "The Time of Trauma: Husserl's Phenomenology and Post-Traumatic Stress Disorder," *Human Studies* 18, no. 4 (1995): pg. 353, accessed June 30, 2015.

²² *Ibid*, p. 355-56. She notes that she is “expanding on Husserl’s theory of memory, pursuing both implication of his texts and the results of experiential reflections.”

²³ *Ibid*, 358. Causes of this sort are referenced in §2.2. and §6.1 of this paper.

Representationalism Gets Cognitive Immediacy Wrong

On the representationalist view, the visual system seems to exist and work for the purpose of creating an image – a representation – of the environment that may be but most likely is not accurate. The associations for PTSD should not be seen as simply mental processes that only exist in the mind having only an initial causal relationship with things in the world. Doing so suggests that the problem is with the sufferer and thus removes the *objects* and experiences associated with those objects, with which the sufferer has emotive associations, from perception.

Part of what we ‘see’ is the opportunities for and costs of acting on the environment. For example, the ground is perceived relative to its walkability and to the bioenergetic costs that this action would incur. However, these nonvisual influences are not limited to energy-related factors: emotions too are a source of nonvisual information that affects visual perception. Moreover, the influences of such nonvisual information generally appear oriented toward such beneficial consequences as conserving energy, attaining goals, or avoiding danger.²⁴

Emotion plays an intimate role and affects what one perceives, how one perceives it, the way in which attention is valued more for certain levels of *trait-anxiety*, and literally augments what one sees. Though it may be tempting for the representationalist to argue that since emotion takes place in the mind that emotionally augmented perception supports a representational theory of perception; this would be assuming too much. We do not perceive retinal images; a notion to which most representationalists are committed. Rather, perception is direct and unmediated.²⁵ If there were such a retinal image it would be one that could never be interpreted given the circular and constantly changing function of our vision.

²⁴ Zadra and Clore, "Emotion and Perception: The Role of Affective Information," np.

²⁵ Gibson, "A Theory of Direct Perception," 88.

Why Direct Realism is more Attractive

Representationalism seems unable to account for the phenomenology and immediacy that PTSD requires by suggesting that all that observers are directly aware of are their internal representations. If perception is merely caused by objects there is difficulty in explaining encoded *process memory* whereby one not only remembers but also re-experiences the past in the present. Though representationalism may seem to be applicable for the notion of emotion augmenting perception since, on the representationalists view, perception is only of representational content; it has the consequence of suggesting, in circular fashion, that emotions about representational content affect representational content. To suggest that emotions have an effect on representational content within the brain would be to suggest that there is a sort of double-perceiving in play (a *second-order* property whereby a lower-level property realizes a higher-level property within the brain).²⁶ There is no evidence for any such circular- or double-perceiving. To take this one radical step further there is no little man, or eye, anywhere in the head or the brain to perform this *double-perceiving*.²⁷ The fallacy for indirect visual perception is that it substitutes pictures for things. Therefore, what is needed is a theory that can account for the intimacy and immediacy with objects in the world that is required when one attempts to account for PTSD.

A direct realist theory of perception that can account for the phenomenal experience of PTSD and the immediacy in perception, can also better explain how memory is encoded with physical, spatial, auditory, and temporal information that could be re-experienced. It can also account for similarity in perception, whereas the privacy of internal representations cannot.

John Searle offers the following argument against representationalism:

²⁶ Tye, *Ten Problems of Consciousness*, pg. 163-64.

²⁷ Gibson, "A Theory of Direct Visual Perception," 89.

- 1) Assume that humans successfully communicate at least some of the time.
- 2) Assume the form of communication consists of publicly available meanings in a public language.
- 3) For (2) we must assume publicly available objects of reference.
- 4) Therefore, humans who successfully communicate must share perceptual access to the same object.²⁸

Searle adds, “a public language presupposes a public world. The problem, then, with [representationalists] is that the privacy... is inconsistent with a public language about a public world.”²⁹

It seems that “the right idea has to be that there is only one thing for receptors to respond to – reality.”³⁰ Direct realism as a theory of perception has this *right idea* as its basis. More importantly, direct realism draws its standards for truth and justification from reality. There are things in the world and we perceive them. Epistemologically speaking, “one begins directly in contact with reality and builds from there.”³¹ The *builds from there*, though, is generally thought of as a challenge for direct realism. As I will show in the next section, John Campbell’s notion of *standpoint* can account for this challenge.

Direct realism adequately and simply accounts for the effects of emotion on perception as well as the encoded information in memory for PTSD sufferers. It is therefore a more adequate theory of perception for the evidence given and the way we encounter the world. Indirect theories like representationalism are not compatible with this evidence or the phenomenology associated with memories that occur as either serial or nonserial processes.

²⁸ John R. Searle, *Mind: A Brief Introduction* (Oxford: Oxford University Press, 2004), pg. 190-91.

²⁹ *Ibid.*,

³⁰ Hicks, "Chapter Three: Representationalism Versus Direct Realism." pg. 16.

³¹ *Ibid.*, 1.

CHAPTER 5

COMBINING CAMPBELL AND GIBSON: A SCIENTIFIC-PHILOSOPHICAL THEORY OF DIRECT REALISM

Direct realism as a theory of perception is quite simplistic. So simplistic in fact that many are often tempted to dismiss it as no more than a version of naïve realism – the common sense theory that our senses provide us direct access and awareness to the external world. An argument for this common sense view would look something like:

- 1) There exists a physical world of objects.
- 2) Objects can be known through sense-experience.
- 3) These objects persist, as do their properties, even when not being perceived, making them largely independent of perception.
- 4) Our senses perceive the world directly, just as it is.

There are a multitude of historical objections that adequately indicate this theory is not sufficient to account for all we perceive. Naïve as this theory may appear it does not contain a false premise. It is merely too simplistic to withstand challenges. Nevertheless, it is not the theory of perception that I endorse. I advocate a theory that combines the philosophical theory put forth by John Campbell and the notion of direct perception advocated by renowned psychologist James J. Gibson. The result is a direct realist theory of perception that is information-based and that adequately accounts for the immediacy, phenomenal experience, and

process memory apparent in PTSD. It also accounts for emotionally augmented perception in a way that is consistent with the phenomenology of the PTSD sufferer's experience. The notion of similarity, which cannot be accounted for by internally private theories such as representationalism, is also explained.

Campbell's Version of Direct Realism: A Three-Place Relation

The typical view, as explained above in the naïve realist case, is a two-place relation between an observer and an object. Campbell establishes that there is a third place; a standpoint.³² Standpoint, as Campbell describes it, is a general term that points in an obvious way to a location in time and space from which the observer views the particular object; *physical standpoint*. An observer stands in relation to an object and must view the object through a medium. Medium accounts for all that is between the observer and the object. Campbell's notion of medium shows that perception could be seen in a similar fashion to looking through glass – if the glass were such that its volatile state required constant readjustment and recalibration in order for it to be made transparent.³³ In addition to the cognitive processing that must take place there are proximity, lighting, position, orientation, and other elements (e.g. emotion and attention) that must be properly accounted for – adjusted or recalibrated – in order to have a clear image of the thing one is attempting to perceive.

Campbell's *three-place relation* can account for the way in which the same object can appear differently at different times or from different standpoints. Depending on one's standpoint, the medium through which one perceives is different at different places and times. In addition to the *physical standpoint* that Campbell points out, I suggest that there is also a

³² John Campbell, "Consciousness and Reference." *The Oxford Handbook of Philosophy of Mind*, OUP Oxford, 2011, pg. 18.

³³ John Campbell. *Reference and Consciousness*. (Oxford: Clarendon Press, 2002), pg. 119.

psychological standpoint from which all observers view the world. It is the notion of *psychological standpoint* that accounts for the way in which emotion alters perception. Though Campbell does not elaborate on the psychological, based on evidence from studies previously mentioned, one's psychology clearly acts as a medium. If the medium through which one perceives must include cognitive processing in any way, surely the cognitive processing must be considered as a factor of standpoint. And, as with proximity and lighting, if the medium of emotion and attention is not properly adjusted or recalibrated then perception is altered. As we have seen, emotion can and does augment what one attends to and what one literally sees. Perceiving from a position of sadness or anger changes how and what one sees. And, although not stated explicitly, I would argue that Campbell's, "notion of a standpoint," eludes to both physical and mental perspectives when he states that it, "must encompass more than merely the position of the observer."³⁴ As pointed out earlier, evidence from research shows that *people who are stressed tend to see things more narrowly whereas those experiencing positive emotions see things more broadly: the forest or the trees analogy.*³⁵ Taking Campbell's notion of standpoint and medium into account makes an exemplary case for *psychological standpoint*.

There is an intimate relationship between observers and objects in the world such that the qualitative character of a visual experience just is the phenomenal character of objects and properties viewed. Campbell's Relational View of Experience points out, "without the objects, there would be no experience of objects."³⁶ This point will be better explained in the following section on Gibson.

³⁴ Campbell, "Consciousness and Reference," 19.

³⁵ §3.1.

³⁶ Campbell. *Reference and Consciousness*, 119.

Gibson's Theory of Direct Perception

James J. Gibson, a renowned psychologist, advances a theory of perception that avoids the difficulties of sensation-based theories like representationalism. His information-based theory of perception does not depend on sensations or images to have knowledge of the external world. Vision, and thus perception, is a circular process that takes place as a complete operation of the retino-neuro-muscular system and not as a one-way delivery of images to the brain; it involves a "cycle of action from retina to brain to eye to retina again."³⁷ Perception is merely a process of gathering information from ambient light reflecting off surfaces in the world.

Gibson accounts for four assumptions to establish his theory of direct perception: "(1) the existence of stimulus information, (2) the fact of invariance over time, (3) the process of extracting invariants over time, and (4) the continuity of perception with memory and thought."³⁸ Light provides stimulus information to our eyes that tells us how things look from our perspective, we learn what things are by witnessing the differences between those things that change and those that do not, and those perceptions get stored with encoded information to be recalled at a later time and re-experienced.

In order to correctly understand direct visual perception, one requires the facts of ecological optics. Visual perception requires an array of ambient light; no vision is possible in darkness and homogenous light causes vision to fail.³⁹ Light, given its speed, obtains equilibrium in a medium almost immediately.⁴⁰ We, therefore, do not receive sensations to be processed in the brain. Rather, we receive information in light from the surfaces of objects that is made

³⁷ James J. Gibson, "A Theory of Direct Visual Perception," in *Vision and Mind: Selected Readings in the Philosophy of Perception*, ed. Alva Noë and Evan Thompson (Cambridge, MA: MIT Press, 2002).

³⁸ James J. Gibson, "New Reasons for Realism," *Synthese* 17, no. 1 (1967): pg. 167-68, accessed October 25, 2015.

³⁹ *Ibid*, 88. Homogenous light is the sort, like viewing in dense fog or with the use of plastic diffusing eye-caps (or half ping-pong balls), that allow the eye the sensation of light but no perception because there is no stimulation. Gibson points out that an experiment using plastic diffusing eye-caps is repeated every year at Cornell, which causes hallucinatory experiences if the subject is not allowed to sleep.

⁴⁰ *Ibid*, 80.

available to us by the light reverberating off of those surfaces when we look. At any point in a medium there will exist a bundle of *visual solid angles* corresponding to components or parts of the illuminated environment.⁴¹ Approaching a flight a stairs and preparing to descend seems to offer an excellent characterization of this point. In a well lit environment the information provided allows one to approach and descend with relative ease. However, in a poorly lit environment the stairs become increasingly difficult to navigate.

Though Gibson does not mention a *three-place relation*, he clearly acknowledges standpoint. He takes for granted and clearly states that we view the world as it is from a particular place and time. A characterization of striking importance is that this theory of direct perception suggests that time is incorporated in the information gathered from the environment. Direct perception, as Gibson explains, is a process of gathering information from ambient light reflecting off surfaces in the world. Gibson's and Campbell's notion of medium, combined with Gibson's understanding that "perception and memory are not sharply separated, either logically or phenomenally,"⁴² supports Husserl's notion of an *encoded process* that allows one to *re-process that past*. If what we perceive is encoded information – gathered from light reflecting off of surfaces at a place, at a time, from a perspective, through a medium – it makes sense that one's memories are likewise encoded. In the same way that remembering a summer beach trip brings to mind the process of stepping onto the sand, walking into the ocean, smelling the salty breeze, feeling the warmth of the sun, etc.; a process memory for a PTSD sufferer has the same sorts of encoded information. What's more important for PTSD sufferers is that the information is not pleasant and can trigger a response that may not be suitable given the sufferer's present location and situation.

⁴¹ Ibid, 81.

⁴² Ibid, 167.

Gibson also suggests that perception is individualized. Different people see things in slightly different ways for various reasons, as pointed out in previous sections. Yet we can all identify objects with a striking degree of accuracy. The reason we all see things similarly (aside from various ways in which one's perception might be augmented) is because the things in the world are what they are and ambient light bounces off their surfaces in the same way for each viewer; a tree is a tree is a tree. How we perceive them, however, as a product of augmented perception or our qualitative assessment, is specific to the individual. Certain traumatized individuals may envision a row of trees as gallows without being delusional to the fact that they visually perceive trees.

The Power of Combining Campbell and Gibson

There seems to be no point on which Campbell and Gibson conflict. Their theories converge to support and solidify not only the theoretical philosophical position for direct realism but the scientifically supported position of direct perception as well. Ambient light reflects off of surfaces and carries a wealth of information – distance, the absorption frequency of surfaces (color), texture, and much else – through a medium and stimulates the retino-neuro-muscular system, which processes and stores the information based on one's physical and psychological standpoint.

It has been stated by many that one of the strengths of direct realism as a theory is that it draws its standards for truth and justification from reality. In short, 'I see a tree because there is a tree.' As appealing and simplistic as the statement may be, it leaves room for challenges. With the aid of Gibson and Campbell, however, it can be greatly supported. The reason a normal sighted person can see a tree (taking for granted the generally accepted naming of the object) is

because there is an object such that light reflects off of its surfaces in such a way as to make it possible for a normal sighted person to see the object, given a relevant standpoint and permeable medium.

CHAPTER 6

POSSIBLE OBJECTION AND RESPONSE

Blindsight, the condition whereby subjects are able to interact with objects that they effectively cannot see, is a common area of contention for many perceptual theorists. I suggest that the clinical condition of blindsight is directly related to the type of perception that occurs when objects are observed peripherally, albeit unattended – I call this the Problem of the Unattended. Just like for blindsighters, objects are in the environment and not obstructed from view, but as they are not attended to they are not reportable. This problem appears to address the core issues faced by PTSD sufferers and is therefore an excellent challenge. I will first show how Blindsight and the Problem of the Unattended are related and then show that direct perception withstands the challenge and offers greater insight into understanding the problem.

Problem – Unattended (Blind) Perception

Blindsight is a visual anomaly resulting from cortical blindness due to lesions on the striate cortex that has the unusual effect of allowing subjects to respond to stimuli of which they seem not to be consciously aware. Subjects who exhibit cortical blindness are able to pick out visual targets though they deny seeing them; they are neither aware of what their eyes are taking

in nor what their brains process.⁴³ There appears to be a breakdown in the transmittal of information from one area of the brain to another.

Normal sighted individuals experience something similar but rarely if ever know about it, though for those who suffer from PTSD it has major ramifications – The Problem of the Unattended. There are objects in our visual field that are perceived yet not attended to – unattended perception. These objects, though ambient light bounces off their surfaces to stimulate the retina and convey information, since they are not attended to they are effectively not seen. And, though no lesions are present in the brain, the proximity of the objects and the lack of attention paid to them leave the individual unable to report them, as certain objects are to blindsighters.

Consider the case of a PTSD sufferer (Alex) whose traumatic event, like all events, consisted of both perceptually attended items as well as items that were present though were not actively attended to. Alex, while walking down the street in a place and time unrelated in any way to her previous traumatic event and not experiencing any related items that were actively attended to at the moment of the traumatic event, passes by a square piece of paper on the ground, which she also does not attend to in the present moment. For all intent purposes she does not ‘see’ it although it is in her peripheral purview such that information about it is conveyed to her retina. Unbeknownst to Alex, the square piece of paper (notecard or similar square, white object) on the ground is similar (if not identical) to an object that was on the ground at the moment of or the moment prior to her traumatic event. Having not actively attended to the object at the moment of the traumatic event and not actively attending to it at the present moment, Alex is not consciously aware of the reason why she is suddenly propelled into a seemingly unprovoked and unwarranted reactive emotional state. Furthermore, her perception of the world

⁴³ Gastone G. Celesia, "Visual Perception and Awareness," *Journal of Psychophysiology* 24, no. 2 (2010): pg. 65.

is altered by the emotional state such that she feels the presence of things and people who are not there, similar to being in the moment of the traumatic event. There is no cognitive cause that Alex is aware of yet she is presently in an altered emotional and perceptual state. This would suggest that even though the object was not actively attended to, ambient light conveyed information from the physical object in the world to Alex and that her cognitive processing of that information facilitated the altered states in Alex.

The scenario seems apparent when one considers thoughts on which one reflects, but not so much when it involves physical objects to which one does not actively attend. How might this be possible? If, as indirect theories like representationalism suggest, perception only occurs in the brain and objects merely cause the sensations that lead to perception, it seems difficult to suggest that an unattended object, like an object to a blindsight subject that one is neither aware of seeing nor aware that their brain has processed, could cause the emotional changes that Alex experiences after passing the unattended object.

Solution – Obtaining Information From the World

On the representationalist view, the assumption is that what is perceived is only the process in the brain whose only information is of neural inputs in the brain that somehow are *caused* by things in the world. This implies that Alex's mental state is a result of Alex's mental state, which is caused by things in the world though Alex has no ability to directly experience or perceive them. Accepting a different theory of perception should shed some light on the situation.

It seems more likely and more aptly explains the above scenario that what we perceive is not neuronal processing but information⁴⁴ from the world, which comes to us through a medium. The retino-neuro-muscular system is a circular process that relies on retinal inputs that lead to ocular adjustments that lead to altered retinal inputs, etc., etc., not a straightforward delivery of images to the brain.⁴⁵ However, if we accept that through direct perception ambient light conveys information to the retina that is processed by the brain, which then conveys adjustment information back to the eye, while simultaneously triggering a state of alertness, the response Alex has to the unattended object is adequately explained.

There was only the physical object that reflected light that conveyed information to which the observer did not attend. Nevertheless the information was conveyed. This also lends itself to explaining how in normal situations a normal sighted person cannot *not* see an object that is held up before them. Regardless of whether or not the observer attends to the object in their purview, the information is conveyed.

⁴⁴ I use Gibson's definition of *optic-array information* here in my use of *information* – "information in light, not in nervous impulses [that] involves geometrical projection to a point of observation, not transmission between a sender and a receiver. It is outside the observer and available to him, not inside his head." (Gibson, "A Theory of Direct Perception," 79.)

⁴⁵ *Ibid*, 80.

CHAPTER 7

IMPLICATIONS FOR TREATMENT OF PTSD

Understanding experiences like those had by Alex (§6.1.) places the issue in a context that is more than unmitigated wrong thinking. Plainly stated, many PTSD sufferers feel that they are the problem in a seemingly normal world and that sort of thinking is unsurprisingly self-destructive. One can deal with and adapt to a problematic world but there seems to be no effective way to overcome or cope with a problematic way of thinking in and of itself.

Accepting a direct realist theory of perception might have beneficial implications in fostering a more productive understanding for how PTSD sufferers view the world, which might in-turn facilitate a more conscientious approach to their treatment. It is reasonable to suggest that having the traumatized person view their problems as being based in something external rather than completely internal could have, if nothing more, the benefit of transferring the *problem* from the sufferer to the experience itself. There seem to be important implications for epistemology as well.

Indirect theories have the negative result of placing the problem squarely in the mind of the sufferer. It is more helpful and correct to acknowledge that the mind is merely responding to the encoded information it has been provided. Situational trauma is processed relative to an individual's previous experiences. As one experiences trauma over time their notion of normal, as a position on the *Sliding Scale*, adjusts. There are times when the experience is too great, too

sudden, or too prolonged for the experiencer to smoothly adjust, rendering an unfavorable and sometimes intolerable psychological state. One such state is that of PTSD.

PTSD has been acknowledged as a widespread issue throughout the world and treatment for PTSD, specifically psychotherapy or counseling, has improved greatly in recent years. Still, a report published by CNN in 2013 stated, "Every day, 22 veterans take their own lives," and suggested that the number was likely much higher.⁴⁶ Today, in 2016, the trend continues. An altered worldview that accepts direct realism could have far-reaching implications, the least of which would be to realize that decreasing the length of time soldiers are exposed to life-threatening, impending trauma would have direct and diminishing effects on the aforementioned trend.

⁴⁶ Moni Basu, "Why Suicide Rate among Veterans May Be More than 22 a Day," CNN, November 14, 2013, section goes here, accessed March 05, 2016.

CHAPTER 8

CONCLUSION

The goal of this paper has been to argue that direct realism is a more adequate and acceptable theory of perception given the evidence from research and the phenomenological experiences associated with PTSD. Information from ambient light reflecting off of surfaces is collected and processed through the retino-neuro-muscular system in a manner of constant adjustment between the retina, the brain, and the eye. Accepting this direct perceptual theory allows for a more adequate interpretation of how experiences store information that can be processed at a later time as memories or, in the case of PTSD, as symptomatic reactions. Sufferers of PTSD do not experience the past as present in a representational way rather they have a symptomatic response to stored information. It is my hope that accepting this theory will advocate for greater acceptance of an altered worldview for PTSD sufferers based on encoded information provided to them from the environment and that conscientious treatment acknowledge a *Sliding Scale of Perceptual Normalcy* will result.

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