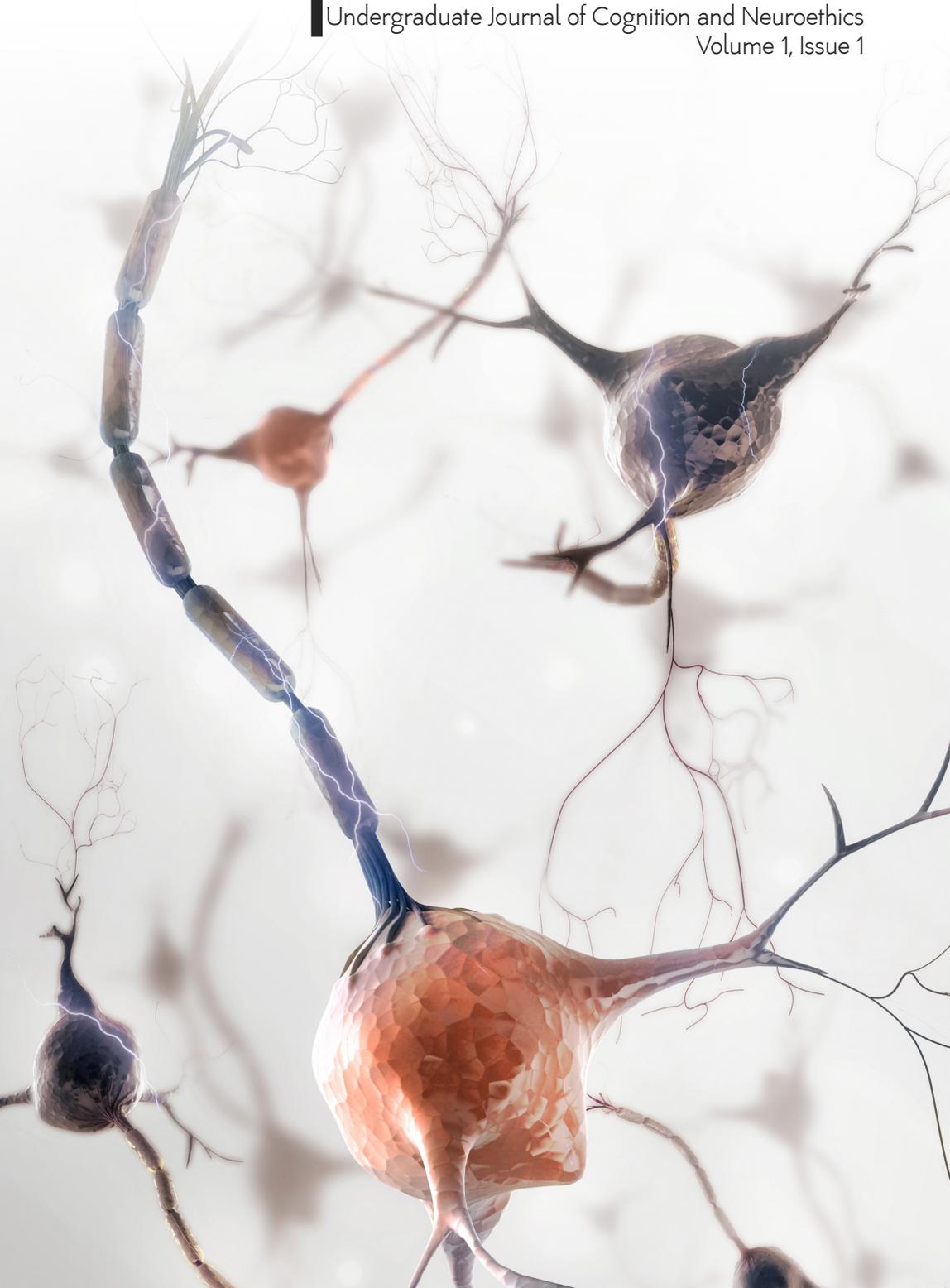


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Introduction

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Welcome to the inaugural volume of *compos mentis: The Undergraduate Journal of Cognition and Neuroethics*. The articles included in this volume are based on the proceedings of the inaugural Michigan Undergraduate Philosophy Conference, sponsored by the Center for Cognition and Neuroethics and the University of Michigan-Flint Philosophy Department.

We recognize that philosophy must be taken beyond the classroom, and so we seek to provide a forum for undergraduates to share their own original work and at the same time be exposed to the works and ideas of peers. Our goal in publishing this journal is to motivate, encourage, and showcase quality undergraduate philosophical work in philosophy of mind, cognitive science, neuroethics, and related fields within Michigan and the surrounding states.

We would like to extend thanks to the participating students as well as all the faculty who have worked with our student authors.

This volume covers a wide array of topics, including issues in contemporary philosophy of mind, free will, and medical ethics. We are very pleased with the submissions for this volume, and we excitedly look forward to what next year's conference and journal will bring.

Psychosomatic Illnesses: Philosophical Implications and the Current State of Research

Elizabeth Arnold
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ABSTRACT

This paper is an attempt to articulate the ideological differences among the sciences when it comes to understanding the relationship between the mind and the body, and specifically the brain. These ideological differences hinder the advancement of psychosomatic research because of the exclusive nature of the claims about the mind and body. The research surrounding psychosomatic illnesses seems to provide scientific evidence that the mind, or a person's beliefs and thoughts, have the ability to cause physical changes. If this research is held to be legitimate, it would be unethical for those professionals in the business of healing and helping others to continue to operate under the biomedical model. Instead, due to the findings of placebo theory, biofeedback, and advances in cognitive psychology the patient-focused professional ought to recognize the individual as a psychological, social, and biological being. Doing so may form unity among the sciences and thereby advance research.

Keywords: psychosomatic, mind, biomedical, placebo, cognitive psychology

Philosophers and scientists alike have been long troubled by the classic 'Mind/Body' problem. Generally, it is understood that humans are both mental and physical beings, both mind and body. Exactly how the mind and the body interact and relate to each other is a classic philosophical question. How does a mental substance, such as a thought, effect a physical substance? In other words, how could something that is immaterial such as a belief, desire, or emotion cause a physical action to occur?

The field of psychosomatic illnesses represents an interesting area of study in philosophy of the mind. Generally speaking, psychosomatic illnesses are thought to be physical illnesses that result from psychological factors. Some examples of such illnesses would be irritable bowel syndrome, upset stomach, muscle aches,

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tension headaches, chronic fatigue syndrome, hyperventilation, panic attacks colitis, infertility, and heart problems that lead to cardiovascular disease. Also, many psychological disorders, such as depression and stress related anxiety have psychosomatic implications, but are not classified as such. The first step to treating psychosomatic illnesses requires a test for physical causes. If none are found, then the patient is usually referred to a psychiatrist or psychotherapist for future assistance. According to the Gale Encyclopedia of Alternative Medicine, biofeedback, hypnosis, prayer, humor therapy, psychoanalysis, and any other psychological therapy are all thought to be legitimate treatments of psychosomatic illnesses today.

While generally accepted by society, not all sciences acknowledge that psychological factors have the ability to cause physical illnesses. In fact, some paradigms of science and medicine exclude this very possibility. Nevertheless, this is generally accepted by society as revealing something fundamentally true about the human experience: thoughts affect physical reality. Although they are not referred to as psychosomatic illnesses many authors of self-help books write about the power of the mind. One story that has become somewhat famous is that of a man named Nick who literally thought himself to death.

Nick was a... man who worked in the railroad yard for many years... He was known around the railroad yards as the most pessimistic man on the job... constantly worried, fretting that something bad might happen. One summer day, the crews were told that they could go home an hour early... Nick accidentally locked himself in a refrigerated boxcar that had been brought to the yard for maintenance... when Nick realized that he was locked inside the refrigerated boxcar, he panicked... He thought, what am I going to do? If I don't get out of here, I'm going to freeze to death... he sat down to await his inevitable death by freezing or suffocation... [Nick] scribbled a message [that said]... 'Getting so cold. Body numb. If I don't get out soon, these will probably be my last words.' And they were... Nick's body [was found] crumpled over in the corner... the autopsy... revealed that Nick had indeed frozen to death... The investigators discovered that the refrigeration unit for the car in which Nick had been trapped was not even on... The temperature in the car that night- the night Nick froze to death- was sixty-one degrees... He was convinced that he didn't have a chance... He lost the battle in his own mind (Osteen 2004, 72-73).

The astounding concept of this story is that Nick's beliefs that he was going to die caused him to die. The story explains that these beliefs were so strong, they overrode physical reality. According to the investigation, the refrigerated boxcar was not cold

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enough for Nick to die of hypothermia, yet the autopsy revealed that he had died of just this. Many readers may be skeptical about the legitimacy of this story and such skepticism is valid. The truth is that this story has yet to be verified.¹ Whether or not it is fiction, this story illustrates the powerful implications of psychosomatic illnesses. The question for psychosomatic medicine is a metaphysical one: does the mind make physical changes in the brain/body. If so, how does this causal relationship occur and to what extent? If thoughts and beliefs cause physical responses, what is the duty of medical professional when treating their patients?

The metaphysics of the mind lie at the heart of psychosomatic illness. However, in order to understand the depth of the issue, one must first understand the longstanding tension between materialism and dualism. Dualism is a line of reasoning that states that the mind and the body are two distinct and independent substances. The body is temporal and spatial, while the mind is neither. The logic behind Dualism is that of Leibniz Law which states that "for any A and B, A and B are identical if and only if they have all the same properties" (Crumley 2006, 69). That is to say that two things are the identical if and only if their essential properties are identical. The essential property of the mind is consciousness:

I am a thinking [conscious] thing, that is a being who doubts, affirms, denies, knows a few objects, and is ignorant of many,- [who loves, hates], wills, refuses,- who imagines likewise and perceives; for, although the things which I perceive or imagine are perhaps nothing at all apart from me, I am nevertheless assured that those modes of consciousness... exist in me. (Popkin, 141)

In other words, there is a certain amount of knowledge that is available only in the first person and cannot be affirmed or denied. My affections, perception, and emotions exist in my mind. These elements of consciousness may be studied, but they may never be verified by anyone other than me. This is because elements of consciousness are strictly mental properties. While they may be correlated or caused by physical properties, they are not themselves physical. This is much different than the essential property of the body, which is that of extension. The body is spatial, temporal, and participates in motion. All properties of the body are testable and tangible. Thus, it follows that the essential properties of the mind and the body are

1. In his book *Empires of the Mind: Lessons To Lead And Succeed In A Knowledge-Based World*, Denis Waitly claims that this is a true story, but gives no reference.

distinctly different. For this reason, according to the dualistic approach, it is not justifiable to say that the mind and the body are the same thing i.e., having identical essential properties.

This understanding of the mind and body has led dualists to argue they are two distinct substances. The problem that inevitably arises out of this classification is the question of interaction: how can two different substances act upon one another? It is almost universally accepted that physical things have physical causes. The argument from causation is often a problem for dualists who hold to the traditional understanding of the mind. If the rule of causation is true, then dualists have a hard time explaining how a mind could cause a physical occurrence.

This is the philosophical conundrum, and it lies at the heart of psychosomatic illnesses because the existence seems to rely on the premise that the mind causes events in the body. Somewhat ironically, the American Psychosomatic Society (APS) makes no metaphysical claims and has historically remained neutral and uncommitted to any particular theory of the mind. A brief history the APS provides much insight into the role of psychosomatic medicine and the future role it will play in science. In his article "Causation to Correlation: the Story of Psychosomatic Medicine 1939-1979," Nissim Mizrachi explains the history of psychosomatic medicine by following the progression of the APS as they have generated the most research and discussion through their journal publication *Psychosomatic Medicine*. Mizrachi explains how the field started in the United States around the 1920s "when several Freudian psychoanalysts immigrated to North America" (Mizrachi 2001, 317). The goal of the APS was "to abolish the distinction between 'mind' and 'body' in medicine by replacing the dominant medical orientation with a holistic approach to the entire field" (Mizrachi 2001, 317). These professionals saw that the distinction between the mind and body came at a cost to medical advancement. Thus, they desired to bridge the gap through psychosomatic research. The Society never made any commitment to a metaphysical explanation of mind and body but strongly emphasized grounding the field in biology. Mizrachi states that "by gathering researchers and practitioners from a variety of fields the founders of psychosomatic medicine hoped to transcend all fields... by accommodating many existing approaches interested in mind-body interaction" (Mizrachi 2001, 318). At this time of the movement behaviorist, psychoanalysis, neurologist, psychiatrist, and medical doctors were a part of the journal publication that represented the Society (Mizrachi 2001, 319). This made for a diverse field of research and interpretation.

By the 1930s, the concept of psychosomatic medicine became linked to

psychoanalysis. The most influential figures, Helen Dunbar and Franz Alexander, attempted to create a materialist explanation of mind/body interaction. Dunbar's theory was called emotional thermodynamics. This theory interpreted the first two laws of thermodynamics psychologically: she explained that "psychological energy seeks an outlet through physical symptoms due to its inability to be expressed mentally" (Mizrachi 2001, 325). This or "permanent faults in personality... lead to the dissipation of energy and eventually to somatic dysfunction" (Mizrachi 2001, 325). This theory shows how Dunbar characterized the mind as a "tangible entity seeking its own equilibrium, by means of energy flowing from an invisible mind to a visible tangible body" (Mizrachi 2001, 325). Alexander took a slightly more abstract interpretation of psychosomatic illnesses and "emphasized the autonomy of the psyche" (Mizrachi 2001, 325). His theory, called conservation process, had obvious psychoanalytic overtones. He described that "unresolved conflicts in the unconscious lead to specific bodily processes of disease" (Mizrachi 2001, 325-326). It was these unconscious thoughts that, if left untreated, may cause physical harm.

In the 1940s, psychosomatic medicine confronted the issue of setting standards for their field. Up until this time, the journal had accepted research from all fields; however, the publication still had its own identity challenges. Setting standards proved to be difficult because required claims of epistemology. The Society was rather "anti-philosophical" and did not make any metaphysical claims (Mizrachi 2001, 318). This would be the center of the field's issues for the next few decades. The peak of the field's research and respect was during WWII because the analysis had "a well-developed theory of war neuroses and psychosomatic disorders, methods of therapy, text and... trained personnel" (Mizrachi 2001, 330). Today, the concept of psychosomatic illnesses is helpful in the field of psychology for helping individuals with disorders like post-traumatic stress.

The rising popularity of drug treatment in the 1950s led to a decline in the respect and need for psychological factors of illness. This had drastic effects on the APS. Thus, from the 1940s-1970 psychosomatic medicine saw a steady decrease in somatic professionals and an increase in psychologically orientated professional. Mizrachi argues that psychosomatic medicine has progressed from an explaining mind/body interaction with causal orientation to correlation. The history shows that the issues of research in psychosomatic causes has always stemmed from a lack of metaphysical understanding. In fact, the science and medicine continue to disagree on the very definition of psychosomatic illnesses. Different fields of study define psychosomatic illnesses according to the paradigm under which they operate. In

the article, "Multiaxial Diagnosis and the Psychosomatic Model of Disease," Oken explains that the biomedical model

embodies a reductionist view in which disease is 'fully accounted for by deviations from the norm of measurable biological variables... it relies largely on a linear, sequential unicity, exemplified in the 'one gene, one enzyme, one disease' pimplism. In this traditional view, disease represents a state of abnormality discontinuous with health imposed on the organism: Disease is something one 'gets'... [this means that] it is diseases that are treated, not patients, and diagnoses are specific, nomothetic 'entities' with fixed characteristics independent of the patient. (Oken 2000, 171)

Thus, it is not surprising to find that those that under this model psychosomatic illnesses are defined through materialistic language. For example, professionals in the so-called hard sciences such as scientists, medical practitioners, and biologically-minded psychiatrists are likely to define psychosomatic illnesses as an illness that is caused by a biochemical imbalance in the brain, which leads to psychological consequences. There is no mention here as to the psyche/mind having a causal role in the disease. Psychologists and cognitively minded psychiatrists tend to define psychosomatic illnesses as "disorder[s] in which the physical symptoms are caused or exacerbated by psychological factors."² And still some professionals in alternative, holistic, or natural medicine refer to psychosomatic phenomenon with no metaphysical reference or attempt to explain the causal interaction. The International Encyclopedia of Social Sciences explicitly states that "the mind-body dichotomy is eliminated through the thesis that there is no duality of mind and body, mental and physical, but only a unity of the total being."³ According to this definition, "psychic and somatic phenomena take place in the same biological system and are two aspects of the same process."⁴

The causal controversy of mind and body in psychosomatic illnesses is contained in its very definition. Although, I believe this controversy is due to ideological differences among the sciences. There are those sciences that have a strong bias toward purely materialistic thought and thus prefer the biomedical

2. <http://medical-dictionary.thefreedictionary.com/psychosomatic+illness>

3. <http://www.gale.cengage.com/iess/content.htm>

4. <http://www.gale.cengage.com/iess/content.htm>

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model of human beings. According to the Medical Dictionary “the biomedical model... [of] health constitutes the freedom from disease, pain, or defect, thus making the normal human condition ‘healthy.’”⁵ The model’s focus on the physical processes, such as the pathology, the biochemistry, and the physiology of a disease, does not take into account the role of social factors or individual subjectivity.”⁶ The Medical Dictionary states that this is “a conceptual model of illness that excludes psychological and social factors and includes only biologic factors in an attempt to understand a person’s medical illness or disorder.”⁷ It becomes obvious, then, that in fields that are dominated by this type of conceptual analysis, there is no room for psychosomatic illness—not even the possibility. However, science provides concrete evidence that the mind, or a person’s beliefs and thoughts, have the ability to cause physical changes in the brain and the rest of the body. If this research is held to be legitimate, then it would be unethical for those professions in the business of healing and helping others to continue to operate under the biomedical model. Instead, due to the findings of placebo theory, biofeedback, and advances in cognitive psychology, the patient-focused professional ought to recognize the individual as a psychological, social, and biological being. Doing so may form unity among the sciences and thus, advance research.

Is there scientific evidence of mind/body causation? The answer is yes. Cognitive psychology generates the most profitable research because the field seeks to scientifically test mind/body causation. Research surrounding placebo theory provides much insight into mind/body causation. The article “Placebo Theory and Its Implications for Research and Clinical Practice: A Review of the Recent Literature” cites compelling evidence that shows how a person’s beliefs, the context in which they occur, and the environment have a profound effect on the outcome of treatment (Koshi and Short 2007). This is shown through the placebo effect, which is the “response of a subject to a substance or to any procedure known to be without any therapeutic effect for the specific condition being treated” (Koshi and Short 2007, 5). A placebo effect refers to the bodily response that is caused by a non-therapeutic drug. Placebo analgesia “refers to the analgesia response after the administration of a substance known to be nonanalgesic when the subject is told that it is a painkiller” (Koshi and Short 2007, 5). In other words,

5. <http://medical-dictionary.thefreedictionary.com/>

6. <http://medical-dictionary.thefreedictionary.com/>

7. <http://www.medilexicon.com/medicaldictionary.php?t=55643>

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patients experiencing placebo analgesia experience pain relief even though they are given no pain revealing drug. Placebo means that a person's belief that they will experience pain relief actually produces pain relief. This is due to the patient's perception of the treatment, which produces expectancies and response to the treatment (Koshi and Short 2007, 5). Interestingly, studies show that the same part of the brain—the pain-modulatory pathways—are activated during the administration of a placebo analgesic that are when the patient receives an actual analgesic. Koshi and Short explain that "expectations are likely mediated by opioid-sensitive pain modulating pathways... [thus] it is plausible that cognitive and motivational factors such as expectation and desire of pain relief are capable of interacting with the neurochemical system and producing an analgesic effect" (Koshi and Short 2007, 8). There is a "remarkable overlap of the areas of the brain that were activated during placebo response and opioid pain modulating pathways... [which suggest that] placebo analgesia may work by stimulating the secretion of endogenous opioids and activating the descending pain modulating pathways" (Koshi and Short 2007, 8). This means that a person's expectations about a drug, treatment or a particular result have the ability to cause certain chemicals to be released in the brain that correspond to those expectations.⁸

Studies show that the context of the treatment affects the outcome of its success. The context of any given treatment includes "perceptual characteristics of drugs, the route of administration, laboratory tests, diagnosis and the doctor-patient relationship" (Koshi and Short 2007, 5). Studies also show perceptual

8. "Hughes in 1975 discovered that the brain synthesizes endogenous opioid which act at the same receptor site as exogenous opioid such as morphine. These endogenous opioid and their receptors spread in discrete sites of the brain are part of the descending opioid pain-modulating network also called the 'top-down pathway.' It connects the limbic forebrain areas (including anterior cingulate cortex, hypothalamus, and central nucleus of amygdala) with periaqueductal gray in the midbrain and, farther down, with rostral ventromedial medulla and the dorsal horn of spinal cord. This pathway can exert both inhibitory and facilitatory control through off-cells and on-cells. When off-cells fire, the transmission of potentially tissue-damaging stimuli are inhibited thus leading to reduced or no pain. When on-cells fire, the transmission of potentially tissue-damaging stimuli is facilitated leading to pain perception. It has been demonstrated that injection of morphine in the rostral ventromedial medulla causes the off-cells to fire and renders the on-cells silent, whereas the injection of the opioid antagonist naloxone has the opposite effect. From a placebo response perspective, the most important point here is that the opioid-sensitive pain modulating pathway links the cortex and limbic system with pain signal transmitting pathways in dorsal horn of spinal cord. Therefore, at least theoretically, it is possible that emotional state, thoughts, and expectations could potentially alter pain perception." (Koshi and Short 2007, 7-9).

characteristics of drugs play a major role in patients' expectancies and responses to the drugs. For example, capsules with colored beads were perceived as more effective than colored tablets, which were perceived as more effective than white tablets with corners and round white tablets. Wall showed that the route of administration affected the treatment efficacy. For example, the intravenous route was perceived as more effective than intramuscular route, which was perceived as more effective than tablets. Sox found that laboratory tests that had no diagnostic value were independent factors of recovery. He randomly assigned 176 patients with nonspecific chest pain into a group that underwent investigations such as electrocardiography and serum creatinine-kinase and a group that underwent no investigations (the control group). The group that underwent investigations reported less short-term disability than the control group. Thomas studied 200 patients who presented in general practice with symptoms of pain, cough, nasal congestion, and tiredness but no abnormal physical findings and in whom no definite diagnosis could be made (Koshi and Short 2007, 5).

Two theories have been developed to explain these phenomena, the Conditioning Theory and the Expectancy Theory (Koshi and Short 2007, 6-7). Only one will be considered here, as I find it more philosophically intriguing. Expectancy Theory explains placebo effects in terms of the patient's expectations for their results. Thus, patient expectations about what will happen in the future help to determine the results. One study by Volkow and associates "found that patients who expect to receive treatment showed more significant changes in brain metabolic activity than those patients who expected to receive placebo although both groups were given an active drug" (Koshi and Short 2007, 7). This suggests that expectations, or rather plainly stated, their beliefs about what they are going to receive "can even override the pharmacological effects of a drug" (Koshi and Short 2007, 7). When it comes to pain analgesia, some studies on pain management suggest that expectations can release the same chemicals in the brain as the actual drug. The role of medical professionals is greatly emphasized in expectancy theory. The way treatment is administered, the diagnosis, and the way the diagnosis is delivered all affect patient expectations. Studies have shown that doctors and nurses play a key role in the outcome of treatment, seeing as the relationship they form with the patients produces certain expectations. Koshi and Short state that "patients who were given a firm diagnosis and therapeutic assurance recovered faster than patients who got no reassurance. Other studies have shown that doctor-patient relationship plays an important role in the outcome of illness" (Koshi and Short 2007, 5). Thus,

positive reinforcement from a doctor or nurses that the treatment will be successful increases the chances that it actually will. Since attitudes of doctors and nurses as well as actions towards patients effect the outcome of treatment, they have an ethical responsibility to positively influence their patients to the best of their ability.

The implications surrounding placebo theory suggest that beliefs may have the ability to trigger biochemical responses in the brain that, in the case of pain analgesia, can have the same effect as a physical substance. In the case of placebo effects, beliefs can drastically alter the outcome of a person's treatment. The question for psychosomatic medicine then becomes, if expectations have the ability to produce positive outcomes for patients such as pain relief and healing, then to what extent can expectations produce negative outcomes like illness or death, such as the story of Nick.⁹ In what way can the mind heal the body and in what way can the mind harm the body?

The cognitive model of psychology provides much insight to how beliefs and perceptions can create physical changes in the body. The cognitive model of psychology is based on the idea that humans are more than Pavlovian stimulus and response animals. Cognitive psychologists operate under the well supported theory that not only do human beings respond to stimuli, they interpret it before responding (consciously or unconsciously). According to famous cognitive psychologist Aaron Beck, stimuli are interpreted through what he calls the cognitive triad: beliefs about the self, the world, and the future. A negative cognitive triad results in clinical depression more often than not. The implication behind this idea is that a person's beliefs about the self, the world, and the future effect how the stimuli are physically processed. Individuals who interpret stimuli through a negative cognitive triad tend to exhibit selective attention toward negative stimuli.¹⁰ Studies show that depressed individuals show more brain stimulation to negative stimuli and "effectively block out the processing of other, potentially more positive information" (Disner et. al.

9. This question is vital to the understanding of psychosomatic illnesses and requires further research. The research I have found has tended towards the minds healing power. The research I have found in support of the minds ability to cause physical ailments has not been scholarly or has given no explanation as to how or why this happens. Therefore, such research is not cited in this paper.

10. "Normal inhibitory processing has been associated with activity in the rostral anterior cingulate cortex (ACC), but the patter of ACC activity is substantively different in individuals with depression. Healthy individuals show greater rostral ACC activity when successfully inhibiting attention to positive stimuli, whereas individuals with depression show greater activation when successfully inhibiting attention to negative stimuli (Disner et. al., 469).

2011, 468–469). Thus, beliefs about the self, the world and the future affect the way information is relayed through the brain and the effects that information has on the brain (Disner et. al. 2011).

If environmental factors and a person's perception of them can play a role in physical causation, then a reductionist explanation of mental causation in terms of neural activity is not sufficient. This is because acknowledging that a person's expectations and perceptions play a role in physical outcomes requires pure mental activities. The claim that the mind can affect the body requires more than the explanation of neural activity. It requires claims about beliefs and perceptions. However, acknowledging the causal role of the mental does not commit one to dualism. In fact, in the article "Embedded Cognition and Mental Causation: Setting Empirical Bounds on Metaphysics," Keijzer and Schouten argue for a non-reductionist view of the mind.

Embedded cognition states that "intricate and essential connections between brain processes, bodily processes and environmental processes...are so extensive and important that one must conclude that at least some psychological processes cannot be localized in the brain alone, but must be interpreted as spread out across the body and the environment.. it is misleading to suggest that... [these things] are simply add-ons for autonomously operating mental or brain processes" (Keijzer and Schouten 2007, 113–114).

Notice that process externalism is not a dualist argument. Rather, it is a form of nonreductive materialism that seeks to explain the mind in terms of concrete physical processes. It holds that the brain is necessary for the mind, but it is not always the primary cause. Process externalism claims "linkage between an agent and her environment are so important to her ongoing functioning as an agent that it is necessary to take relevant environmental features as belonging to the set of processes that together constitute mentality" (Keijzer and Schouten 2007, 115). This means that the external objects and events of our perception so fundamentally constitute mental functioning that they ought to be considered to be part of the actual mental process. That is to say that the environmental factors ought to be considered an extended mind. If cognitive model of psychology is correct, human knowledge and functioning require that they filter stimuli through a set of belief systems before the information is processed. It seems that on this foundation, research for psychosomatic illnesses may be able to reach a level of causal authority and acceptance among the sciences.

In conclusion, research indicates that the mind has a profound impact on the

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body. When it comes to psychosomatic illnesses, it may be misleading to say that these diseases have no physical cause, seeing as it has to start somewhere—literally. Such a statement has dualistic implications, which may be the reason why some fields of science do not recognize psychosomatic illnesses as legitimate. However, placebo theory and the cognitive model of depression demonstrate how beliefs alter the way information is processed in the brain. This places an ethical responsibility on medical professionals because it means that their approach towards their patients and the treatment they administer affects the outcome of treatment. In order for professionals to treat their patients in a way that recognizes the power the mind has on the brain/body, a particular paradigm is needed. This is because certain paradigms, such as the biomedical model exclude even the possibility of such a fact. In order to incorporate mental power into illness and treatment, sciences must make a shift away from the biomedical model. In order to do so, professionals in the hard sciences ought to publish articles about such topics. It is the philosopher's job to illuminate the metaphysical implications of current research and scientific models.

REFERENCES

Beck, Aaron T., M.D. 2008. "The Evolution of the Cognitive Model of Depression and its Neurobiological Correlates." *The American Journal of Psychiatry* 165 (8): 969–77.

Disner, Seth G., Christopher G. Beevers, Emily A. P. Haigh, and Aaron T. Beck. 2011. "Neural Mechanisms of the Cognitive Model of Depression." *Nature Reviews Neuroscience* 12 (8): 467–77.

The Gale Encyclopedia of Alternative Medicine, Volume 1. Jacqueline L. (Longe, Gale Group 2001).

Gall, Terry Lynn and Karen Grant. 2005. "Spiritual Disposition and Understanding Illness." *Pastoral Psychology* 53 (6): 515–533.

Keijzer, Fred and Maurice Schouten. 2007. "Embedded Cognition and Mental Causation: Setting Empirical Bounds on Metaphysics." *Synthese* 158 (1): 109–125.

Koshi, E. B. and Short, C. A. 2007. "Placebo Theory and Its Implications for Research

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and Clinical Practice: A Review of the Recent Literature." *Pain Practice* 7: 4–20.

Kroedel, Thomas. 2008. "Mental Causation as Multiple Causation." *Philosophical Studies* 139 (1): 125–143.

Meissner, W. W. 2006. "Psychoanalysis and the Mind-Body Relation: Psychosomatic Perspectives." *Bulletin of the Menninger Clinic* 70 (4): 295–315.

Mills, Jon. 2002. "Five Dangers of Materialism." *Genetic, Social, and General Psychology Monographs* 128 (1): 5–27.

Mizrachi, Nissim. 2001. "From Causation to Correlation: The Story of Psychosomatic Medicine 1939–1979." *Culture, Medicine and Psychiatry* 25 (3): 317–43.

Moss-Morris, R., M. J. Spence, and R. Hou. 2011. "The Pathway from Glandular Fever to Chronic Fatigue Syndrome: Can the Cognitive Behavioral Model Provide the Map?" *Psychological Medicine* 41 (5): 1099–107.

Nemiah, John C. 2000. "A Psychodynamic View of Psychosomatic Medicine." *Psychosomatic Medicine* 62: 299–303.

Oken, Donald. 2000. "Multiaxial Diagnosis AND the Psychosomatic Model of Disease." *Psychosomatic Medicine* 62: 171–175.

Osteen, Joel. 2004. *Your Best Life Now*. 72–73. New York: Faith Works.

Peper, Erik, Dianne M. Shumay PhD., and Donald Moss. 2012. "Change Illness Beliefs with Biofeedback and Somatic Feedback." *Biofeedback* (Online) 40 (4): 154–159.

Popkin, Richard H. 1966. *The Philosophy of the Sixteenth and Seventeenth Centuries; Readings in the History of Philosophy. Descartes Meditations III*. 141. New York: The Free Press.

Walker, Nigel. 1956. "The Definition of Psychosomatic Disorder." *The British Journal for the Philosophy of Science* 6 (24): 265.

The Desirability of Free Will: The Value of the Concept Regardless of Its Existence

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ABSTRACT

Free will is often regarded as being desirable by laypersons, especially when considering determinism as an alternative. However, this dichotomous thinking excludes a number of compatibilist alternatives, which may feature types of free will that could still be regarded as being desirable. Compatibilism, the co-existence of free will and determinism, includes the thoughts of David Hume. Hume defines free will as being an impression of having free will in a causally determined world. This paper investigates the reasons both laypeople and free will theorists have for desiring free will. This paper also develops a case for why David Hume's compatibilist type of free will, which is defined as the impression of free will, and how it can accommodate those reasons more effectively than can libertarian free will. The paper concludes that Humean free will is truly superior in this regard because the existence of an impression of free will can be easily determined to be true while the existence of libertarian free will remains uncertain.

Keywords: Arpaly, Compatibilism, Conscious Will, Determinism, Free Will, Hume, Kane, Significance of Free Will

INTRODUCTION

While free will theorists attribute the value and the resulting desirability of free will to a number of reasons, laypersons may value and desire free will for a variety of other reasons. Free will theorists may provide reasons that follow a technical, interdisciplinary form of thought, but laypersons probably rely on their intuitions to explain the value of the concept. Intuitions such as the desire to have control over one's life, the desire to have dignity or self-worth, and the wish for a comfortable, natural state of being rather than one that is a hindrance, are all potential responses to the question "Why is free will desirable?" Regardless of the specific reasons people value free will, it seems as though many are attracted to the idea. Some,

like philosopher David Hume, even seek to maintain the concept of free will, after claiming libertarian free will to be illusory by changing the definition of it. In order to be as critical and accurate as possible, I plan to focus on free will of the Humean type rather than of a libertarian type because the argument of the concept's actual existence is potentially irrelevant to the question being considered. In this paper I will discuss the results of investigating both philosophical and pedestrian perspectives on the desirability of Humean free will and argue that Humean free will can more effectively accommodate the reasons people desire the concept than can libertarian free will.

HUMEAN FREE WILL

In his essay *Of liberty and necessity*, David Hume develops a compatibilist account of free will. He begins by defining free will as being "the internal impression we feel and are conscious of, when we knowingly give rise to any new motion of our body, or new perception of our mind" (Hume 1739, 76). Essentially, this Humean interpretation considers free will to be a mere conscious feeling or impression of making free choices that are either physically or mentally actualized in the form of actions or thoughts. Since Hume regards free will to be an illusory concept in this manner, he is retroactively categorized as a compatibilist.

The illusory Humean free will is compatible with the kind of causal determinism Hume describes in his essay. According to Hume, the "constant union," or the predictable, regular connection, between objects is promising evidence for objects to operate in a necessary way. If we can empirically witness this predictable connection of an inferred cause and effect, then we should be comfortable with considering objects as being causally determined (Hume 1739, 77). Hume extends this idea of necessary causality to the actions and thoughts of human beings.

While it may not always be apparent, the actions and even thoughts of human beings are subject to causal necessity, much like objects we observe. We may admit with ease that laws of nature produce necessary effects from particular causes, but we have difficulty believing that the contents of our minds and emotions operate similarly. Hume argues that the connections between products of the mind, as well as emotion, and physical causes and effects are closer than we might believe. We understand that infants eventually become adults, as they are casually connected in a physical manner from being one continuous body. It would be absurd to expect an infant to raise three hundred pounds of weight, just as it would be absurd to

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expect an infant to partake in a form of philosophical reasoning as I am currently (Hume 1739, 78). With this example, Hume shows that as the infant necessarily grows physically, as an effect, the infant acquires advanced cognitive abilities, thus connecting the physical cause to an effect on the mind. If "like causes... produce like effects," then physical causes of many kinds can influence our minds and emotions, which in turn can influence effects of either kind (Hume 1739, 78). In a manner of speaking, both kinds of causes and effects operate similarly in the same system of causal necessity, making human actions and thoughts subject to determinism.

Once Hume establishes the causal necessity of human actions and thoughts, he makes a case for necessity itself being the source for moral responsibility based on its causal quality. Hume, as a result, challenges the libertarian perspective that the concept of free will is the foundation for assessing agents' moral responsibility. Since libertarians are incompatibilists, they are required by definition to reject the causal determinism Hume had constructed. If causal determinism is not true, then there is no connection between actions and their actors. This, for Hume, would render the actor not accountable for any actions (Hume 1739, 85). While the actions themselves may be considered bad or good, no one could be blamed or praised for the actions because they are not causally connected to anyone, assuming that causal determinism is not true. In this way, Hume argues for the compatibility between determinism and moral responsibility.

However, the construction of the compatibility between determinism and moral responsibility does not explain the reason Hume provided an alternative definition of free will. Why would Hume invest in changing the definition of free will to maintain the concept in a world he concluded was determined? I believe that one reason is because Hume, like many others, wanted free will regardless of its potential use to justify moral responsibility.

REASONS FOR DESIRING FREE WILL

It has been made clear by Hume that determinism can be compatible with, or rather necessary for moral responsibility. Therefore, if not to justify moral responsibility, what other reasons would compel people to desire and defend free will, particularly one of the Humean type? Robert Kane, Nomy Arpaly, and Daniel Wegner are a few thinkers who mention details relevant to the kinds of reasons people desire free will of both the libertarian and Humean type. Among their reasons are desires for ideal agency, individuality, dignity, autonomy, creativity, desert, and the specific

libertarian desire for real control and choice. However, these reasons, with the exception of the desire for genuine control, can exist apart from the libertarian concept of free will being true. I aim to show, with the help from the work of modern thinkers, how the reasons for desiring free will, upon examination, are actually more meaningful and attainable when considered from a Humean perspective on the concept.

As a libertarian, Robert Kane faces a similar difficulty of not being able to separate a particular reason for desiring free will from the notion of "real" or "genuine" free will being intrinsically desirable. Kane provides numerous amounts of reasons for why people, both common and philosophically trained, would desire free will (Kane 1996, 79–80). However, in the hope of convincing his audience to accept his libertarian perspective of ultimate responsibility, he outlines at the start what ultimate responsibility entails and asks the question of desirability of free will based on ultimate responsibility.

Kane's ultimate responsibility describes the type of free will that allows an agent to have sole "sole authorship" or "underived origination" for their actions (Kane 1996, 79). This means that actions are traceable to and only up to the agents who willingly performed those actions and that those actions could not have been influenced by part of the agent for which the agent themselves were not responsible. It may be obvious now that this is a form of absolute freedom, which Kane advertises as being desirable for a variety of reasons. Although Kane explains why absolute freedom is worth wanting for specific reasons, he acknowledges the compatibilist argument for why ultimate responsibility is not necessary for people to desire free will (Kane 1996, 89–90).

Both incompatibilists and compatibilists will agree that the following are very likely reasons to desire free will: creativity, individuality, desert, autonomy, dignity, love, friendship, etc. (Kane 1996, 80). However, incompatibilists would argue simultaneously for the existence of free will and how the existence is significant to each reason having the quality of being desirable. Without the notion of the concept's existence, the feature in question fails to be a reason for the desirability of free will. For example, creativity is only desirable to an incompatibilist like Kane if the creativity is "genuine" (Kane 1996, 81). If it is not genuine, then it hardly counts as being "real" creativity. Nevertheless, Kane admits that a compatibilist could easily challenge terms such as "genuine" and "real" as being tools to force a requirement of incompatibilist free will into the argument (Kane 1996, 89). It is almost as if Kane is treating each of the desires as instrumental goods to bring

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about what he considers to be the ultimate intrinsic good, absolute and real free will. If this is the case, ultimately all of the desires for free will could be reduced to only one true desire, which is the desire for free will for its own sake.

The compatibilist perspective on the desirability of free will prevents such a reduction or hierarchy of desires. Since none of the reasons for desiring the concept rely on the status of its existence beyond being a real impression of free will, each reason can be considered in full as if those reasons were intrinsically valuable and the concept was instrumental for their achievement. The displacement of the reasons generate more meaning in the specific qualities being valued and cast less doubt on the reasons since they are not based on the uncertain existence of a metaphysical principle. Rather, the values reflect our wishes, which have truth-values that are actually accessible and still provide us with conditions we desire. In an example of a compatibilist consideration of creativity, Kane summarizes the perspective that "real" free will is unnecessary for holding such reasons to desire the concept:

By virtue of denying underived origination, we do not have to deny the existence of novelty and creativity... Even if determinism were true... Beethoven would be artistically creative in the obvious sense that he had produced something novel and magnificent. (Kane 1996, 89)

Nonetheless, a perspective such as this may still lend to questions of the intrinsic importance of free will as a real concept.

Nomy Arpaly, a modern philosopher, however, provides an argument that suggests that the desire for free will for its own sake is incoherent and most likely impossible, which as a result releases the other reasons from being suppressed by terms such as "genuine" or "real." According to Arpaly, some people want something beyond the desires such as the ones provided by Kane. Specifically, they want control over their own mental states. However, in order to have this sort of control one must need to be "a self apart from our mental states that can choose them at will" (Arpaly 2006, 126). Already this desire seems a strange one to possess once it is reflected upon as Arpaly has done. Furthermore, if one were to choose to become a new person with new and different beliefs, desires, and preferences, then the choices would be based on their current or pre-existing beliefs, desires, and preferences (Arpaly 2006, 127). If hypothetically one were absent of any particular

beliefs, desires, and preferences, then they would probably not have the ability to choose or at least choose reasonably. The individual would be as neutral or random as Buridan's ass.

If it is indeed the case that it would be incoherent to desire an impossible, libertarian type of free will, would it still be worth wanting? Arpaly says that it would be worth wanting and it would not be absurd to want it either since we wish for impossible things frequently (Arpaly 2006, 127–128). However, I suggest Humean free will as an alternative, because it is neither impossible, nor absurd to desire.

Social Psychologist and author of *The Illusion of Conscious Will*, Daniel Wegner assumes a Humean type of free will, which is apparent from the title of his work. In his chapter titled, "Protecting the Illusion," Wegner discusses the tendency for people to retroactively claim intentionality for actions that seem obviously unintended (Wegner 2002, 146). These unintentional actions vary in terms of absurdity from actions that were normal but unintended to ones that are difficult to explain due to their incoherence. This is important to Wegner because people, more likely than not, will assume intentionality for unconscious actions regardless of the action's absurdity. Wegner proposes that this tendency is a result of peoples' desire to be an ideal agent, or an agent who exhibits a teleological type of intention and conscious will (Wegner 2002, 146–149). Having conscious intentionality preserves meaning and gives us direction, otherwise we would have to admit to acting meaninglessly, at least as far we know, and acting without any known goal. Wegner's work can help us see that free will is desirable for people who exhibit a tendency to retroactively apply intention to unconscious actions because of the attractiveness of meaning and goal orientation of our actions. While libertarian free will theorists would have a difficult time explaining this desire being separate from the existence of free will for its own sake, Humean free will theorists would find that their claims accommodate this perspective neatly. More specifically, the difficulty for libertarians would arise from their binary mode of thinking (either free will exists or it does not) which assumes that the reasons for desiring ideal agency, via generous interpretations of unintended actions, are directly associated with the hope that free will exists rather than determinism. This type of association is not necessarily obvious for compatibilists such as Hume because their alternative definition of free will does not conflict with ideal agency as well as causally determined unintentional actions. Additionally, it is not unusual for people to place value in determined events, or events perceived as such. Nomy Arpaly's concept of

"romantic necessity" accurately demonstrates the pedestrian value of determinism in terms of colloquial expressions surrounding the idea of "destiny" (Arpaly 2006, 7). Expressions such as, "I *can't help* falling in love with you," "It was meant to be," and, "This book *had* to be written" are all examples of value being placed on some sense of determinism (Arpaly 2006, 4). If people appreciate having this "romantic necessity" as well as ideal agency, depending on the context of events, it may be unwise for them to label themselves as libertarians since their expressions would contradict their beliefs; it would be more appropriate for them to adopt the concept of Humean free will since it allows for expressions of desiring both "romantic necessity" and ideal agency.

Although Humean free will is by definition the impression of having free will, it may be a much more pragmatic and authentic kind of free will to desire. It is authentic in the sense that we can attest to the existence of such an impression as well as moments when we felt we lacked such an impression. People, even determinists, probably spend their daily lives or at least most of their time alive under such an impression. We perform the act of choice making and deliberation as if it were normal and meaningful. Any who deny this, I imagine, live difficult lives in continuous reminder of the determined nature of the world and themselves. Their minds would be clouded by determinist reminders for each and every step, breath, word, and thought, probably making them miserable as a result. Of course I do not believe this to be the nature of any real person's life. It would not be practical to live in such a state.

Contrary to the circumstance described above, a perspective of free will of the Humean type may provide more practical applications to one's life. The pragmatism would be a result of how natural it is to have an impression of free will. As I said, it seems normal and meaningful to deliberate and make choices on a daily basis. It would also provide a feeling of control, which could help us maintain a motivated and positive perspective as well as our sanity. An article was published in the *Personality and Social Psychology Bulletin* concerning the very issue of maintaining a positive perspective especially in social situations. The studies featured in the article were conducted in order to investigate if an induced or dispositional belief in free will or determinism would result in any significant effects in a social setting, namely aggression and helpfulness (Baumeister et al. 2009, 260–261). The results of the first experiment, which was designed to induce either a belief or disbelief in free will, revealed that participants induced with disbelief were less willing to help than those that were induced with a belief in free will (Baumeister et al. 2009,

263–264). The second experiment concerned not just the willingness but also the commitment to actually help based on dispositional beliefs (Baumeister et al. 2009, 264). The experimenters found that participants who claimed to believe in free will were more likely to volunteer than those who claimed to believe in determinism (Baumeister et al. 2009, 265). The third and last experiment in the article was, like the first experiment, designed to induce either a belief or disbelief in free will and study the relationship of both induced conditions to acts of aggression (Baumeister et al. 2009, 265). The results showed that those who were induced to disbelieve free will acted more aggressively towards others than those who were induced to believe free will (Baumeister et al. 2009, 266–267). While it may be true that due to the experiments' complexity and the uncertain nature of the human mind there may be flaws with the study, but overall the study is rather insightful about how the belief in free will may have a positive role in society.¹ For reasons such as these, free will of the Humean type is convenient at the very least.

OBJECTIONS

Despite these reasons, I anticipate a few objections to this perspective. One may claim that I am advocating a freedom of will that allows for randomness or spontaneity, which would in turn make it a useless form of free will. Considering the fact that Humean free will by definition is a conscious impression, it could not generate any randomness since it relies on the agents being aware of their own deliberation. Another objection I anticipate is one regarding truth and the immoral act of believing falsities. I am inclined to defend Humean free will, although regarded as being an illusory form of libertarian free will, by mentioning the fact that in no way is Humean free will false. Imagine the difference between the existence of a "belief in God" and "God." The existence of the faith someone has in God can be easily determined; if a person is not lying and they claim to believe in God, then the faith they possess certainly exists. However, the same cannot be said for the

1. The experiments varied in complexity in terms of the number of the variables involved and one may object that an inverse relationship may exist between the complexity and the reliability of the experimental results. For example, the third experiment of the study involved many steps, which inadvertently introduced variables that could have had significant effects on the participants making the results questionable. On the other hand, the first experiment was done in a short amount of time with very few opportunities for significant influence from outside variables, making the experiment more reliable. However, the results of all experiments were consistently positive in identifying the relationship in question regardless of the complexity of the experiments.

existence of God because the nature the existence of God is uncertain. Similarly, the impression of freedom we experience frequently is quite real and while the content of the impression may conflict with causal determinism, it doesn't make the impression any less real. Since we act on our impressions as if the content of them were real, there must be some merit in desiring such an impression.

I also anticipate a challenge concerning how necessary Humean free will is in a pragmatic sense. However, as I have said, having an impression of free will is natural, comfortable, and therefore convenient. If we did not believe we had free will of the Humean kind, we would either believe in an impossible, absolute freedom or we would have to actively remind ourselves of how constrained we are by deterministic causes, which would be a great waste of time. Finally, I anticipate an objection from a hard incompatibilist of the determinist kind, much like the view held by Derk Pereboom. One with this type of view may claim that free will of any kind, including Humean free will, is not required to fulfill any of the reasons to desire free will such as self-worth, creativity, love, and individuality. They would probably state that almost all of the reasons to want free will could be maintained in a deterministic world without free will. Take for example self-worth as a reason to desire free will. Derk Pereboom states in *Four Views on Free Will*, that people frequently place value on things such as intelligence, athletic ability, and natural beauty, which are all out of our control (Fischer 2007, 118). With this perspective, it may be true that there could be self-worth without free will of any kind. However, this view doesn't allow for moral responsibility as we practice it regularly. In a determined world, we do not possess control over anything, therefore we cannot be held morally responsible for any of our actions. While the hard incompatibilist perspective can make sense of desirable concepts such as self-worth, it neglects the significant desire for moral responsibility.

Pereboom's alternative to moral responsibility is the "quarantine view," a system founded on practicality and causal responsibility. This view allows for society to essentially restrict and monitor the activities of those who may cause harm to others instead of reacting with the sentiment of punishment, hence it is called quarantining rather than detainment (Pereboom 2001, 174–176). Although this system generates consequences similar to that of a system founded on moral responsibility, such as our current justice system, with the exception of lacking blame, it doesn't allow for people to be praised due to the determined nature of their behaviors and it would also make daily moral judgments more complicated or even impossible to evaluate as we would normally. While quarantining may work well for

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those with a disposition to murder or steal, it makes less sense to quarantine people for things like occasional rude gestures or comments. However, we may still want the option to blame them if we so choose, which is not possible for Pereboom's view. Moral responsibility, in this way, can allow us to operate on multiple levels of moral evaluation unlike the "quarantine view," which can only account for pragmatic evaluations of extreme cases. This major difference in dealing with responsibility highlights the advantages to a Humean perspective of free will relative to the views of a hard incompatibilist.

Judging from existing literature and reasoning, it seems as though there are many reasons for people to desire free will regardless of the status of its existence. The desire for individuality, creativity, autonomy, desert, dignity, love, ideal agency, and other such qualities are all potential reasons for desiring the concept of free will. However, libertarian perspectives, such as Kane's, sometimes require the existence of free will for the desires to be considerable. This seems backwards, so I suggest an alternative, reverse perspective of Humean free will, which can account for such desires regardless of whether or not free will exists. Arpaly's argument of the impossibility of free will significantly limits the types of free will worth wanting, making Humean free will an option worth investigating. Despite the fact that Humean free will may be viewed as being illusory, it is difficult to deny the sort of "common feeling" we can observe in the world when people feel as if they are deliberating or making a choice.

REFERENCES

Arpaly, Nomy. 2006. *Merit, Meaning, and Human Bondage*. Princeton, New Jersey: Princeton University Press.

Baumeister, Roy F., E.J. Masicampo, and Nathan C. DeWall. 2009. "Prosocial Benefits of Feeling Free: Disbelief in Free Will Increases Aggression and Reduces Helpfulness." *Personality and Social Psychology Bulletin* 35 2: 260–268.

Fischer, John M., Robert Kane, Derk Pereboom, and Manuel Vargas. 2007. *Four Views on Free Will*. Malden, Massachusetts: Blackwell Publishing.

Hume, David. 1739. "Of Liberty and Necessity." In *Free Will*, edited by Derk

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Pereboom. Indianapolis: Hackett Publishing Company, Inc.

Kane, Robert. 1996. *The Significance of Free Will*. New York: Oxford University Press.

Pereboom, Derk. 2001. *Living Without Free Will*. Cambridge: Cambridge University Press.

Wegner, Daniel. 2002. *The Illusion of Conscious Will*. Cambridge, Massachusetts: MIT press.

Explaining Qualia

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ABSTRACT

In this paper, I consider what the data of qualia imply about which theory of consciousness is true. I argue that no physicalist alternative accounts both for their ineffable, experiential nature and their causal efficacy. Substance dualism, on the other hand, does account for both of these. Qualia thus constitute evidence in favor of dualism over and against its physicalist competitors, and this shows that it is a live option in philosophy of mind.

Key words: qualia, consciousness, physicalism, reductive physicalism, epiphenomenalism, substance dualism, functionalism, topic-neutral, ineffable, causal efficacy

INTRODUCTION

One of the goals of theories about consciousness is to explain qualia, or the sensory qualities of some mental phenomena, such as the hurtiness of pain or the appearance of green. In other words, the primary views in philosophy of mind are distinguished in part by how they fit qualia into their theories of consciousness. How successful a theory is in explaining these data of qualia is often seen as a major factor in determining its plausibility. I am assuming here that our basic experience of qualia constitute data to be explained by our theories of consciousness; that is, people have a natural, intuitive grasp of qualia (even if they do not express this in a philosophical way), and these must be made sense of by our theories in a way that does justice to our intuitions. This line of thinking has been challenged by some in experimental philosophy, where it is argued that intuitions about qualia are not so basic and uniform. These considerations go beyond the scope of this paper and will not be represented here. In this paper, I will explain and assess the major theories in philosophy of mind regarding qualia—substance dualism, reductive physicalism, and epiphenomenalism. I argue that only substance dualism explains

or incorporates both the ineffable, experiential nature of qualia (i.e., their raw feel) and their causal efficacy.

My motivations for writing this paper rest in the belief that substance dualism still has something to offer the philosophy of mind, and therefore should not be dismissed out of hand as a theory of the past. As a naturalized philosophy of mind develops, we continue to run into cases where our interpretation of what science says about the world conflicts with our ordinary or “common sense” conception of the world. In many cases this is a good thing; science is often in a better position to know about some things than common sense. But I wonder where the line is with this project. That is, how steadfast should we be with our desire to construct naturalist or physicalist pictures of the world if they continue to deny the basic intuitions we share? Rather, if we have alternative theories that preserve these intuitions and do not themselves suffer from any insuperable difficulties, then is it reasonable to give these theories consideration? I maintain that it is, and intend in this paper to show that the debate about qualia is one area where an alternative theory like dualism should be reconsidered. Later in the paper, I also show that the difficulties about dualism are not unresolvable. Thus, since it preserves our intuitions about qualia, it should again be considered a live option in philosophy of mind. Before we see this, however, we must be clear on what each theory says about qualia.

THEORIES OF QUALIA

According to René Descartes, qualia demonstrate that the mind is distinct from the body. He argues as follows. I am distinctly aware of myself as a thinking thing, which means in part that I am a thing that has sensory perceptions or qualia (e.g., I feel pain). But I am not distinctly aware of myself as having a body; I can conceive of myself existing and having qualia without a body. Hence, it is possible for me to exist without my body, from which it follows that I am an immaterial substance distinct from my body. Nevertheless, it is clear that I and my body interact with each other (Descartes 1991, 23–9). On Descartes’ substance dualism, then, qualia are states of the immaterial soul that stand in causal relations with the body.¹

However, as Jaegwon Kim points out, dualism faces the problem of explaining how immaterial minds could causally influence the physical world, since physical

1. In a more technical sense, it is the immaterial soul itself that has causal relations with the body, and the qualia are properties or features of the soul. However, qualia would still play a part in the overall causal connection between the soul and the body (e.g., a feeling of pain is part of the reason why the soul causes the body to wince).

effects plausibly require physical causes (Kim 2006, 42).² In fact, Kim argues, the problem of mental causation shows that qualia can only be explained within reductive physicalist or epiphenomenalist frameworks (Kim 2006, 194–200). For, given physicalism, we accept that every event with a cause has a physical cause (i.e., physical causal closure), and that a person's mental states are fixed by their physical states (i.e., mind-body supervenience). But then the only way to say that qualia have physical effects is to say that qualia reduce to brain states (reductive physicalism), since physical effects already have physical causes, and we do not want to admit overdetermination.³ In other words, given that every brain state has a sufficient physical cause, there is no room left for the causal efficacy of mental states *unless* they are just the same as brain states.⁴ On the other hand, if we are not concerned with preserving mental causation, we may say that qualia are causally inert immaterial properties that supervene on physical properties (epiphenomenalism). Kim himself finds the existence of mental causation to be non-negotiable and therefore takes the reductive physicalist route, though he acknowledges that both views have their own problems (Kim 2006, 181).

The reductive physicalist option may be represented by J.J.C. Smart. His primary reason for believing that consciousness is physical is that everything else about the world is explicable by physical science, and it is absurd to think that consciousness is the one exception (Smart 1991, 169–70). What then does he do with qualia? These, Smart argues, are not sets of the intrinsic properties of consciousness but rather vague apprehensions of what are in fact brain states (Smart 1991, 172–3). Thus, to say, "I have a green sensation," is merely to say something like: "I am in the kind of state I would be in if I were seeing something green." This explains both how qualia can be identical with brain states and how they may retain their elusive nature. Reports of qualia are therefore vague, topic-neutral descriptions of the brain states to which they reduce.

The epiphenomenalist option may be represented by Frank Jackson. He has three reasons supporting the non-physicality of qualia (Jackson 1982, 128–32). First, we can have complete physical knowledge about certain experiences and

2. This problem was initially raised by Princess Elisabeth of Bohemia in response to Descartes, and is seen by many as the fatal flaw of substance dualism.

3. Overdetermination occurs when there is a sufficient cause for some effect that already has a sufficient cause at the same time. As Kim points out, these cases are rare and should not be invoked lightly.

4. The same argument can also be used to show that qualia do not cause other *mental* states either.

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still lack knowledge of those experiences: that is, knowledge of the qualia. Second, it is possible for there to be organisms exactly like us in every physical respect, but different from us in that they lack a conscious mental life. Third, following Nagel, physical information alone cannot tell us *what it is like* to have an unfamiliar perspective on the world (e.g., what it is like to be a bat). All of these considerations aim to show that all the physical information about us leaves out some information: namely, the non-physical qualia. Nevertheless, Jackson holds, there is no good reason to think that qualia have any influence on the physical world, which leads to his epiphenomenalist position (Jackson 1982, 133–5). He admits that it remains mysterious why qualia should exist and be caused by brain states, but says that we should not expect to understand this due to our natural epistemic limitations.

ASSESSMENT: ALTERNATIVES TO DUALISM

Kim's exclusion argument. It seems to me that Kim is right in arguing that reductive physicalism and epiphenomenalism are the only options for explaining qualia once dualism is denied. If dualism is false, then—granted we are not idealists either—we must hold that consciousness is in some sense grounded in a physical substance like the brain. But if that is the case, then qualia will either be identical with brain states, or be properties or features realized by brain states. Moreover, given this kind of physicalism, we are apt to accept Kim's premises of physical causal closure and mind-body supervenience. But if that is the case, then qualia can only be causally efficacious if they are brain states—otherwise they are excluded. So since they either are or are not causally efficacious, either reductionism or epiphenomenalism is true.

Some may worry that this unjustifiably leaves out functionalism, which is prominent view in philosophy of mind. On this view, mental states (and hence qualia) are functional events of an organism; that is, an organism's consciousness is simply an organization of its functions (Putnam 1991, 199–200).⁵ Functionalism thus portrays mental states in a topic-neutral way, saying nothing about their intrinsic nature. But this is precisely why functionalism is left out: it may tell us something informative about qualia, but it does not tell us anything about what qualia *are in themselves*, and therefore has no explanation of them. Notably, functionalism does not even tell us if qualia are physical or non-physical, since it is consistent

5. For example, pain would be a state that is caused by damage to the body and typically causes avoidance behavior, wincing, etc.

with both dualist and monist pictures of consciousness (i.e., an immaterial soul may be part of an organism's functional organization). In fact, functionalism's lack of an explanation of qualia constitutes one of the biggest objections to the view, for many feel that it is possible for there to be organisms that have the same functional organization as us, but that have absent or inverted qualia (Kim 2006, 162–3). All this goes to show that functionalism is not a live option for explaining qualia. Kim's argument thus succeeds in showing reductive physicalism and epiphenomenalism to be the alternatives to dualism in explaining qualia.

Smart's reductive physicalism. How does Smart's reductionism fare? Recall that his primary reason given for endorsing this view is that allowing non-physical consciousness would threaten the unity and explanatory power of science, and Smart simply cannot accept this. Nevertheless, he himself admits that this is "largely a confession of faith," not amounting to much of an argument (Smart 1991, 170). I think he is right here: it would be question-begging to assume that science must explain everything, and then conclude that consciousness is therefore physical, since this conclusion is *equivalent* to saying that consciousness is explicable by science. In other words, the conclusion that science explains everything should come *after* we determine whether reductionism is true, not before it. So there is not much justification to be gained from this end. Smart's view does have something going for it in that it allows for qualia to be causally efficacious, as Kim's argument showed.

But reductionism runs into an insuperable difficulty: by reducing qualia to brain states, the ineffable, experiential nature of qualia is removed. The argument for this is simple: any two identical things must have all the same properties, but qualia clearly have properties that brain states do not and vice versa. Consider the appearance of green. If this quale was a brain state, then it would make sense to ascribe to it a certain weight, location in space (say, closer to the left ear than the right), and capacity of being seen by a neurophysiologist (Moreland and Craig 2003, 233). These are all properties of brain states, but it seems bizarre to ascribe them to qualia; hence, qualia are not brain states. Jackson's arguments demonstrate the same point. Consider just one: the case of the neurophysiologist Mary (Jackson 1982, 130). Mary specializes in the neurophysiology of vision. She possesses all the scientific knowledge there is to know about what goes on in our brain when we experience color, despite working in a black and white room all her life and only possessing a black and white television. Nevertheless, when she leaves the room and experiences green for the first time, we still want to say that

Mary gains knowledge about the world. Thus, qualia are not included in all the information about brain states; they have different properties and are therefore not identical. These arguments serve to show that qualia cannot be reduced to brain states without sacrificing the very thing that makes them qualia: their ineffable, experiential nature.

Smart does attempt to preserve the ineffable nature of qualia with his topic-neutral approach (i.e., qualia are not things or properties in themselves but vague apprehensions of brain states). However, this attempt fails for the simple reason that, contrary to Smart, people do not think of qualia in this way. When people say "I have a green sensation," they are not vaguely referring to some *other* event that often happens, but rather to their *present* experience of having an appearance of green. Reductive physicalism thus fails to adequately explain qualia because it removes their ineffable, experiential nature.

Jackson's epiphenomenalism. But if reductionism fails, what about epiphenomenalism? By denying the physicality of qualia, Jackson does seem to preserve their experiential nature. However, as we saw earlier, this view does not allow for their causal efficacy, a tenet that most of us take to be non-negotiable. As Jerry Fodor explains:

[I]f it isn't literally true that my wanting is causally responsible for my reaching, and my itching is causally responsible for my scratching, and my believing is causally responsible for my saying..., if none of that is literally true, then practically everything I believe about anything is false and it's the end of the world. (cited in Kim 2006, 181)

This is a perhaps overstated way to make the point that mental causation is a basic intuition that cannot reasonably be denied. But then views like epiphenomenalism must be deemed false.

Jackson responds to this point by raising the possibility that our intuition is mistaken. He notes:

No matter how often *B* follows *A*, and no matter how initially obvious the causality of the connection seems, the hypothesis that *A* causes *B* can be overturned by an over-arching theory which shows the two as distinct effects of a common underlying causal process. (Jackson 1982, 133)

This may be true, but is hardly an adequate response as it unjustifiably shifts the burden of proof. If mental causation seems obvious to us (as Jackson seems to concede), then we are perfectly within our rational rights to believe in it in the absence of some overriding defeater. However, the possibility that mental causation does not happen after all no more defeats our belief in it than the possibility of us being in the matrix defeats our belief in the external world. Jackson is right that he has an over-arching theory that would expose the illusion of mental causation, but we have strong reason to disbelieve that theory in light of our basic intuition that mental causation does in fact occur. So denying the causal efficacy of qualia constitutes a failure on the part of epiphenomenalism to adequately explain a necessary feature of qualia, and we may therefore conclude that neither physicalist alternative is a plausible account of qualia.

RECONSIDERING DUALISM

If neither physicalist account can explain qualia, what about substance dualism? This view, like epiphenomenalism, posits qualia as immaterial features, which preserves their ineffable, experiential nature. Moreover, it also holds that qualia are causally efficacious, doing justice to that intuition as well.

We recall, however, that the primary problem with dualism was showing just how an immaterial entity like the soul and a physical entity like the body could interact. This problem may take different forms. It may take the form of a question (e.g., "How could immaterial qualia affect a physical body?") that demands answering before dualism should be believed. This is the version that Elizabeth seemed to espouse in her letter to Descartes (Kim 2006, 41-2). However, as Descartes responded, we have a basic apprehension of the interaction between our minds and bodies, such that we know *that* it occurs even without having an explanation of *how* it occurs (Descartes 1991, 33). That is, the objection assumes that we must know *how* a causal interaction occurs in order to know *that* it occurs, but this is unjustified (Moreland and Craig 2003, 243).⁶ Moreover, as J. P. Moreland and William Lane Craig explain, such a "how" question assumes that some intermediate mechanism be given by which the soul influences the body (Moreland and Craig 2003, 243-4). But the interaction between the soul and the body may well be immediate, having no such mechanism. Therefore, this version of the interaction

6. As these authors argue, if this assumption were true, then we could not know that causal forces such as gravity exist since we do not have an account of how gravitational interaction occurs.

problem does not constitute a difficulty for dualism.

A more sophisticated form that this objection takes is based off the notion of physical causal closure and runs as follows (Kim 2006, 42; Robinson 2012, sec. 3.1; Collins 2008, sec. I and II). A basic principle in modern physics is the conservation of energy and momentum, which states that, in closed or causally isolated physical systems, the total amount of energy and momentum must remain constant. However, dualist interactionism would violate this law, since the mind must produce new energy and momentum in the brain to create a new neural event. Thus, such interaction cannot take place. Two points may be made by means of response. First, this argument begs the question, since applying the conservation law to the body just is to deny that dualism is true. That is, the dualist denies that the body is a closed system, so the conservation law becomes irrelevant in this case and therefore is not violated (Robinson 2012, sec. 3.1). Second, as Robin Collins notes, the conservation principle is not a universal principle in physics:

The [energy conservation] objection against interactionistic dualism fails when one considers the fact that energy conservation is not a universally applicable principle in physics [e.g., general relativity] and that quantum mechanics sets a precedent for interaction (or at least law-like correlation) without any sort of energy-momentum exchange, or even any intermediate carrier. (Collins 2008, sec. V)

But if this principle does not apply in some areas of physics, why think that it must apply in the case of mind-body interaction? If it does not even apply to the universe as a whole, then it is not necessarily true that it applies to the brain, either. Both versions of the interaction problem therefore fail.⁷

So given the options available to us for explaining qualia, substance dualism commends itself as the most plausible in that it explains both their ineffable,

7. Another objection to substance dualism is that it is incoherent: the very idea of an "immaterial substance" is contradictory since the idea of a "substance" is of a physical thing. But this objection plainly begs the question against dualism, which is built on arguments that show that there are immaterial substances. Dualists (and theists, for that matter) have the idea of a substance that is immaterial, and use the term "substance" merely to pick out a thing which has properties, whether it is physical or non-physical. Within a physicalist framework, it is natural to be perplexed at the idea of an immaterial substance, but the very question under consideration is whether a physicalist framework is the right framework. So this objection is a non-starter.

experiential nature and their causal efficacy, where the physicalist alternatives fail in one of these respects.⁸

CONCLUSION

In this paper, we have examined different positions in philosophy of mind when it comes to explaining qualia, or the raw feels of experience. Substance dualism portrays them as features of the immaterial soul that causally interacts with the body. Reductive physicalism identifies them as nothing more than vague apprehensions of brain states. Epiphenomenalism conceives of them as non-physical properties that supervene on brain states but do not cause anything. Kim's explanatory exclusion argument was given to restrict the physicalist options to just reductionism and epiphenomenalism once dualism is denied. However, we saw that neither option adequately explains qualia: reductionism fails to fit in to its account their ineffable, experiential nature, whereas epiphenomenalism denies their causal efficacy; both moves are unacceptable. Dualism, on the other hand, explains both of these features of qualia without having any insuperable difficulties. It therefore commends itself as the most plausible theory.

The conclusions of this paper constitute an argument for substance dualism. If qualia cannot be incorporated into a physicalist picture of consciousness, then they count as evidence in favor of non-physicalism (i.e., dualism). Of course, other non-physicalist accounts like idealism were not considered here; it is up to the reader to examine how substance dualism fares against these accounts. Moreover, other considerations besides those about qualia may factor into one's overall assessment of these positions, both physicalist and non-physicalist. Nevertheless, such an argument does show that qualia constitute a defeater for physicalist theories of consciousness, which is not insignificant. Hence, the debate about qualia demonstrates the benefit of reconsidering substance dualism as a live option in contemporary philosophy of mind.⁹

8. A further question we might have concerns how it is the qualia function on substance dualism. Constructing a detailed substance dualist account of the experience of qualia, as well as of the human person as a whole, could either enhance or weaken the plausibility of the theory. I leave this project aside as an idea that deserves future consideration.

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REFERENCES

- Collins, Robin. 2008. "Modern Physics and the Energy Conservation Objection to Mind-Body Dualism" [condensed Version]. *The American Philosophical Quarterly* 45 1: 31–42.
- Descartes, René. 1991. "René Descartes, Selections." In *The Nature of Mind*, edited by David M. Rosenthal, 21–37. New York and Oxford: Oxford UP.
- Jackson, Frank. 1982. "Epiphenomenal Qualia." *The Philosophical Quarterly* 32.127: 127–36.
- Kim, Jaegwon. 2006. *Philosophy of Mind* (2nd ed.). United States of America: Westview.
- Moreland, J.P., and William Lane Craig. 2003. *Philosophical Foundations for a Christian Worldview*. Downers Grove, Illinois: IVP Academic.
- Putnam, Hilary. 1991. "The Nature of Mental States." In *The Nature of Mind*, edited by David M. Rosenthal, 197–203. New York and Oxford: Oxford UP.
- Robinson, Howard. 2012. "Dualism." In *The Stanford Encyclopedia of Philosophy* (Winter 2012 Edition), edited by Edward N. Zalta.
- Smart, J.J.C. 1991. "Sensations and Brain Processes." In *The Nature of Mind*, edited by David M. Rosenthal, 169–76. New York and Oxford: Oxford UP.

Near-Death Experiences: A Potential Problem for Physicalism

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ABSTRACT

Near-death experiences have been known to exist for centuries, yet their philosophical significance remains unknown. An overview of the research of near-death experiences is compiled and the various cognitive, transcendental, affective, and paranormal components of near-death experiences are explored. Included in these are accounts of people meeting deceased relatives, having out-of-body experiences, sensations of tranquility, and believing one has traveled to another realm. The verifiability of these experiences are explored, particularly the account of a woman who had an out-of-body experience during a brain surgery in which her brainwaves and most other bodily functions were measured at zero. It is then explored what this may mean for physicalist frameworks of mind. It is proposed that if the out-of-body experiences are indeed real, then problems for physicalism arise given our current neurological paradigms. How exactly can the mind be reduced to physical states if the physical body is not functioning? Anticipated replies from physicalists are then given including theoretical hallucinogenic neurotransmitters, abnormal oxygen levels, and impaired functioning of the temporo-parietal junction in the brain. It is then concluded that each explanation is not adequate to explain every facet of the near-death experience, but they may be capable of doing so in the future with a more complete neuroscience. Regardless of what it may mean for physicalism, near-death experiences should be further researched within the confines of philosophy due to their possible implications and potential questions regarding the nature of consciousness.

Keywords: Near-Death Experience, Out-of-Body Experience, Physicalism, Dualism

Near-death experiences, commonly abbreviated by NDE, are defined as "profound and sometimes life-changing experiences reported by people who have been physiologically close to death, as in cardiac arrest, or psychologically close to death,

as in accidents or illnesses in which they feared they would die" (Greyson 2006). NDEs have been chronicled for as long as philosophy has been around and they pose a unique problem in science and philosophy. It is impossible to know that a NDE is about to occur and obviously one would be quite hesitant to volunteer for the chance to experience one. Thus, much of the research done is hypothetical, unable to be tested experimentally, and based on witness testimonies. The testimonies pose their own unique problems as they are unverifiable and subject to retrospective changes due to the natural faults of human memory. Yet, to get closer to the truth, we have to use these testimonies.

Research on near-death experiences is in a relatively infantile stage due to the difficulties posed in gaining new information. The seemingly universal experiences shared by people with NDEs were first chronicled in the late 70s (Moody 1975) and the phrase "near-death experience" was coined in the same publication. Since then, there has been much research completed and studies done to build a volume of cases, but not to the point of a full explanation. Bruce Greyson took the torch after Moody and has become a pioneer in the field both philosophically and scientifically. He divided the various features of NDEs into four distinct categories each with their own significance: cognitive, affective, transcendental, and paranormal features.

Many NDEs consist of cognitive features in which the victims have thought processes despite little to no brain activity in the body of the person having the experience. Victims occasionally say they are presented with choices, a self-awareness that they are at the end of their life, and a sense that they are approaching a barrier from which they may not be able to return. Whether they actually have autonomy in NDEs is irrelevant in this regard; the fact that they can actually comprehend a situation in which they could possibly have options is remarkable considering their brain activity is virtually nonexistent. If true and verifiable, these features could pose problems for certain philosophies of mind and this will be discussed later in the paper.

Also common in NDEs are affective features. These are distinguished by the persons experiencing emotional states during the NDE. A majority of near-death experiences have witnesses saying that they had feelings of peace, tranquility, and well-being (French 2005). Experiences are even noted where a person encounters "a being of light radiating love and understanding" (Dell'Olio 2010). Subsequently, almost every person has an elimination of fear of death. Also, despite frustration manifesting from an inability to get people to relate to their experience, most people have a greater appreciation for life and love after their NDE based on psychological

evaluations and witness testimonials. These features are interesting because one would not expect a person to have feelings of peace and tranquility during such a stressful episode, especially if one uses the premise that emotional states are only possible in a functioning brain.

Transcendental features are exemplified by the person's perception of visiting another realm or world. These perceptions often consist of visions of deceased persons, (most often biological relatives) and/or mystical beings. There have even been cases of people having visions of relatives that they didn't know. "I saw, apart from my deceased grandmother, a man who had looked at me lovingly, but whom I did not know. More than 10 years later, at my mother's deathbed, she confessed to me that I had been born out of an extramarital relationship...my mother showed me his picture. The unknown man that I had seen more than 10 years before during my NDE turned out to be my biological father" (van Lommel 2006). There have been other experiences involving people visiting fields or cities of bright light, often times accompanied by gates that are seemingly impossible to get through. The level of clarity and deepness varies from NDE to NDE, but virtually all NDEs with transcendental features have a commonality about them in regards to seeing deceased persons. Obviously, these episodes are virtually impossible to verify, but if true, they show that a person has the ability to travel in a mental sense without a physical body and could also pose problems for certain theories in philosophy of mind.

Finally, paranormal features include "extraordinarily vivid physical senses, extrasensory perception, precognitive visions, and a sense of being out of the physical body" (Greyson 2006). These paranormal features often have a psychic allure behind them. There have often been people who claim to have seen the future including the birth of children, dealing with future terminal illnesses of loved ones, and circumstances relating to their occupation. These events seem to typically be remembered later in a *deja vu* sense. Simple things like color and sound are perceived in ways that are not typical; most people who have had a NDE have trouble relating these sensations to other people who have not experienced them.

The most philosophically significant feature of NDEs is the out-of-body experience. During an out-of-body experience, the person seems to have the ability to perceive, feel emotions, and create new memories, but their "self" is not within their body. Rather, they are viewing it from above. In other words, their center of experience is located above their physical body. This aspect of NDE has incredible significance because the experience can often be verified by third parties. A

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relatively famous example is that of Pam Reynolds (Sabom 1998). She suffered a brain aneurysm that required a surgery that forced the blood in head to be drained, not unlike oil from a car. The doctors taped her eyes shut and molded headphones to her ears while playing clicking sounds at greater than 100dB in order measure her brainwaves. Her body temperature was then lowered to approximately 19 degrees Celsius and the brain surgery commenced once her brainwaves were measured at zero and her heart was stopped. During the surgery, she said she had the sensation of "popping out of her head". She explained she was then viewing her body from above while floating from the ceiling. She could hear the conversation between the doctors discussing blood vessels in her legs. She even remembered the music that the doctors were playing during her surgery. She then felt her body being transitioned down a dark tunnel towards a pinpoint of light while hearing her grandmother's voice calling for her. After hearing her voice, all fear subsided and she drifted down this tunnel willfully. Her uncle also accompanied her during this experience. Once some time had passed, she journeyed back down the tunnel and into her body and had no recollection after that. A year later, assuming it was a hallucination, she spoke to the surgeon about the experience. He showed her the video and audio recording of the surgery. Amazingly, they found that the conversation she recited actually happened during the surgery and the song that she remembered, "Hotel California" by the Eagles, also was playing in the room as they put her body in a cardiac standstill.

Pin van Lommel (2006) also notes an interesting example where a man was in a coma with no heartbeat after an accident. While in the emergency room, the comatose man had his dentures removed by a nurse and she placed them into what is called a crash cart. After an hour and a half, he once again had a sufficient heart rate, but he was still in a coma. He eventually became conscious again over the next few days, yet no one was able to find his dentures. More than a week after the incident, the man sees the nurse and proclaims that she knows where his dentures are. He explains how he was viewing his body from above during the whole ordeal. He was also able to explain what that room looked like despite never being conscious while in the room. Lo and behold, his dentures were indeed in the crash cart.

Because of their nature and verifiability, I believe that these out-of-body experiences pose a unique problem for physicalist frameworks of mind. Physicalists have become extremely prevalent in modern philosophy, especially with evolutions in neuroscience. Various opposing schools of thought, including dualism, have

become virtually shunned with advents in technology. Many of the mind's mysteries have become answerable in physical terms, often by pointing to certain areas of the brain, but questions still remain unanswered. I propose that the nature of out-of-body experiences is one of these questions.

I believe that it is up to physicalists, rather than other frameworks of mind, to explain the out-of-body phenomena experienced by the likes of Pam Reynolds. The reason is quite simple: how exactly does one have physically based mental states if their brainwaves are reduced to nothing and their body is in an intentional non-functioning state? Also, how would one experience physical states and process sensory information if their center of experience is located outside of their physical body?

A dualistic philosophy of mind would explain these phenomena quite effectively. Dualists argue that there is a mental entity that exists independent of our physical body and it is responsible for our mental functions and even our identity. An out-of-body experience could be explained as the mental entity escaping its physical bonds as the body becomes uninhabitable and the other facets of the NDE can be explained through various psychological explanatory models, as explained below.

Proponents for these psychological models have said that the near-death experience can be brought about by the mind going into a temporary unstable state or through a form of expectation: that is to say, because the person is expecting to see something during their time of death, they actually do experience something. While proponents make a pseudo placebo effect argument, easy objections can be made towards expectation models based on seeing deceased, unknown relatives as mentioned above in the transcendental features section. If one says we only see deceased persons because we *expect* to see them in a near-death state, then how exactly could a person see someone that they have never met?

Other proponents of psychological models say that the NDEs occur because of a built in defense mechanism used for especially harrowing ordeals. They explain this model as something similar to how a person goes into shock or blacks out during a traumatic experience. While defense mechanisms are known to exist in some sense, the extent to which they can be applied to NDE is unknown because it would be nearly impossible to test for such a thing.

Another subtype of psychological models states that NDEs occur due to depersonalization. Depersonalization involves feelings of detachment, strangeness, and unreality. It often consists of a person feeling detached from their own self and having no control over a particular situation. It is a recognized personality disorder

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in psychology, but its relevance to NDEs, like any other psychological model, remains unknown and purely speculative. Pundits to depersonalization point out that people who have had NDEs feel like they have some sort of control over what is happening. Often times, people have claimed to communicate with the deceased and move freely within a mystical realm. If true, then depersonalization would not be able to account for every facet of the NDE.

A less supported psychological model claims that NDEs are a recreation of our memory of birth. They point to the tunnel of light as an indicator, but pundits have easily dismissed these claims. There have been instances of NDE in people born from a Caesarean section and the percentages seem to indicate that one form of birth does not produce more NDEs than the other. Also, it is pointed out that "many NDEs do not contain the features of a tunnel or light" and "newborns lack the visual, spatial, and mental capacities" (Greyson 2006) to form memories at the time of their birth.

Dualism and psychological models come with their own set of problems, but strictly within the context of out-of-body experiences, with our current paradigms and knowledge, dualism, with or without the assistance of psychological models, gives a seemingly more thorough explanation compared to physicalism.

While I do believe that dualists can currently offer a better explanation of NDEs, I also believe that physicalists have the potential to give a more thorough explanation with a more complete neuroscience. There have been numerous attempts to explain NDEs through various physical components, but all theories presently have an incompleteness to them. I shall now give an overview of these physiological explanations and give my thoughts on how they could each evolve to give an adequate view of NDEs and the mind.

A common physical belief is that NDEs are hallucinations due to the fact that no one else around them can see the experience. Often times, theorists will point to the similarities of NDE and hallucinogens, particularly dimethyltryptamine (DMT) and ketamine. Nearly everyone who has used DMT recreationally has reported having an out-of-body experience and experiencing some of the transcendental features of NDEs like traveling to another realm or meeting mystical beings. DMT is widely found in nature, including trace amounts in some mammals, but its significance in human functioning is relatively unknown at this time (Burchett & Hicks 2006). It has been proposed that the brain could produce DMT as a neurotransmitter during something traumatic, like NDEs, which could result in a hallucination. At this time, there currently is no concrete evidence to support DMT being in the human brain,

let alone being the primary cause for NDEs, but the DMT experience has been likened to an NDE.

Another one of these proposed neurotransmitters is ketamine. Ketamine can also be also recreationally consumed and the users have reported experiences that resemble NDEs like "traveling through a dark tunnel into light, believing one has died, or communing with a god." (Greyson 2006) Pundits point out that ketamine, unlike DMT and NDEs, often results in the user feeling frightened. Also, most ketamine users "recognize the illusory character of their experience, whereas people who have had near-death experiences are almost always convinced of the reality of the experience" (Greyson 2006). In addition, ketamine users do not experience any of the aforementioned affective features associated with NDE, but this could be compensated for if one is to have a theory that incorporates a concoction of other neurotransmitters, including endorphins, serotonin, and/or adrenaline. They propose that these neurotransmitters, when released together in a NDE, could produce a hallucinatory experience from the DMT and/or ketamine along with a sensation of peacefulness from the overabundance of other neurotransmitters. Calling an out-of-body experience a chemically induced hallucination is one possible answer for physicalists, but it cannot be the complete answer. In the case of Pam Reynolds, her body temperature was lowered to the point where there was no measurable brain activity and her sensory organs were debilitated, yet she was still capable of gathering new sensory information and having clear mental processes. Based on the doctor's reports, she was witnessing reality and not a hallucination. Thus, if one is explain an NDE as a hallucination, they need to also explain how the person is still able to accurately perceive reality while being effectively brain dead during that time period.

Another physiological explanatory model of NDEs deals with vital gases, or lack thereof, within the human body. Proponents say that NDEs are caused by decreased oxygen (hypoxia) or a complete lack of oxygen (anoxia). Whinnery (1997) noted the similarities between G-LOC syndrome and NDEs. G-LOC syndrome occurs when fighter pilots accelerate too fast and lose adequate blood supply to their brain, thus resulting in a form of hypoxia. Whinnery noticed that these episodes often involved "tunnel vision and bright lights, floating sensations, automatic movement, out-of-body experiences, vivid dreamlets of beautiful places, pleasurable sensations, dissociation, visions of family and friends, and experiencing prior memories and thoughts". Obviously, these sensations mirror many aspects of NDE. Common objections to hypoxia theories point out that people who have

experienced G-LOC and other forms of hypoxia are often left in a confused state and this conflicts with reports from NDErs who claim that they have a heightened sense of clarity, rather than a decreased sense of their surroundings. Other objections point to fact that people have experienced NDEs with normal oxygen levels. Also, there have been innumerable reports of people not having NDEs with abnormal oxygen levels. Thus, there doesn't seem to be a correlation between levels of vital gases and NDEs.

Seemingly, the strongest argument for physicalists deals with the temporoparietal junction (TPJ) in the brain. Recent studies have shown that injury to the TPJ can cause distortions in self-awareness and self-imaging. Researchers built case studies of people who had out-of-body experiences and noticed a positive correlation between lesions in the TPJ and out-of-body experiences. Other experimenters electrically stimulated the TPJ and triggered an out-of-body experience. The researchers point out that the brain must integrate and weigh evidence from various sensory inputs and quickly arrive at a decision. In order to sustain optimal functionality, the brain must use this evidence from the sensory inputs to "create sensory-central representations of the movement and position of the body and its position in extra-personal space" (Blanke & Arzy 2005). The researchers propose that occasionally, contradicting information from various sensory inputs, along with impairments to the TPJ, can result in the brain functioning as if there are two central representations of the self. This could feasibly result in an out-of-body experience.

This theory seems to hold much water and makes sense logically due to the extensive research behind it. Yet, it is not without its own problems. For one, in the case of Pam Reynolds, how exactly can there be contradictory sensory information when she was not experiencing any sensory information? Her eyes were taped shut and her ears were cut off from any auditory information, yet she was capable of rehashing precisely what was said in the operating room. While the TPJ theory has allowed physicalists to focus on a specific part of the brain, the current theory cannot fully capture some aspects of the near-death experience.

In modern philosophy of mind, the dominating theories are physicalist frameworks. With advancements in neuroscience, many previous mental phenomena have been explained, but the nature of NDEs, specifically out-of-body experiences, have thus far been more adequately explained with other philosophies of mind. The question still remains: how exactly can one process sensory information and have mental processes when a person's brain activity is measured zero? As mentioned previously, physicalists have attempted to attribute

NDEs to theoretical hallucinogenic neurotransmitters, but these theories are not currently testable in people who have had NDEs. Also proposed is a theory in which NDEs are caused by a lack of oxygen, but there have been no correlations drawn between a lack of oxygen and the emergence of an NDE. The physicalist theory with the most support is one that states an injury to the temporo-parietal junction in the brain causes an out-of-body experience, yet this theory leaves holes in how a person suffering from an NDE can gather new sensory information while their brain activity is nonexistent. In order to learn more about NDEs and answer questions about the nature of the mind within the context of an NDE, we must gather a larger sample size of people who have had an NDE. Martens (1994) proposes for an NDE register for cardiac arrest survivors. The problem is that even if one is to gather hundreds of testimonies, the testimonies will always be retrospective, thus causing doubts to their validity. Also, we would be unable to know if the results would only apply to cardiac arrest survivors or if they were universally applicable to all NDEs. There may never be a way to accurately gauge an authentic NDE using scientific measures, but alternative research focused on the TPJ is, in my opinion, the physicalists best chance at adequately explaining the nature near-death experiences. Near-death experiences have a particular uniqueness about them. Regardless of what a near-death experience means for physicalism and dualism, it is indisputable that NDEs allow philosophers to ask new questions about the state of our consciousness and how we receive sensory information. These facets alone should implore more people to study and question near-death experiences in order to gain more information about the human mind.

REFERENCES

- Greyson, Bruce. 2006. "Near-Death Experiences and Spirituality." *Zygon: Journal of Religion and Science* 41 (2): 393–414.
- Moody, Paul. 1975. *Life after Life: The Investigation of a Phenomenon—Survival of Bodily Death*. Atlanta: Mockingbird Books.
- Van Lommel, Pim. 2006. "Near-death experience, consciousness, and the brain: A new concept about the continuity of our consciousness based on recent scientific research on near-death experience in survivors of cardiac arrest." *World Futures*

62 (1 & 2): 134–151.

Ring, Kenneth. 1982. *Life at Death: A Scientific Investigation of the Near-Death Experience*. New York: William, Morrow & Co.

Dell'Olio, Andrew. 2010. "Do near-death experiences provide a rational basis for belief in life after death?" *Sophia* 49 (1): 113–128.

French, Christopher. 2005. *Near-death experiences in cardiac arrest survivors*. In Steven Laureys (ed.), *Boundaries of Consciousness*. Amsterdam: Elsevier.

Sabom, Michael. 1998. *Light and Death: One Doctor's Fascinating Account of Near-Death Experiences: "The Case of Pam Reynolds."* Grand Rapids, Michigan: Zondervan.

Burchett, Scott A. and Phillip T. Hicks. 2006. "The mysterious trace amines: Protean neuromodulators of synaptic transmission in mammalian brain." *Progress in Neurobiology* 79 (5–6): 223–46

Whinnery, J.E. 1997. "Psychophysiological Correlates of Unconsciousness and near-death experiences." *Journal of Near-Death Studies* 15 (4): 231–258.

Martens, P.R. 1994. "Near-Death Experiences in Out-of-Hospital Cardiac Arrest Survivors. Meaningful Phenomena or just Fantasy of Death?" *Resuscitation*. 27 (2): 171–5.

Arzy, Shahar; Blanke, Olaf. 2005. "The Out-of-Body Experience: Disturbed Self-Processing at the Temporo-Parietal Juncti." *The Neuroscientist* 11 (1): 16–24.



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