

Psychosomatic Illnesses: Philosophical Implications and the Current State of Research

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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?f=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.

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